FACT:
THE ROMANCE OF MIND

By HENRY OSBORN TAYLOR

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FREEDOM OF THE MIND IN HISTORY

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HENRY OSBORN TAYLOR

"What is your substance? Whereof are you made,
That millions of strange shadows on you tend?"

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TO

J. I. T.

PREFACE

THE object of this little book is to illustrate the various ways in which men perceive and construct facts, and then to indicate the kind of fact which best fixes itself in the mind. Not meaning to be metaphysical, I hope to keep to the ordinary use of language. Current speech should be able to tell the tale of the sorts of things or no-things which the human mind has accepted as facts and has fancied to be real or effective. Out of these acceptances, imaginings, constructions, it has made its own agelong and romantic history, the story of itself.

Often my statements will be found halting and uncertain. I cannot help this, since it is against my nature to speak with assurance about what seems to me uncertain. Many views upon the constitution of man, held today in science or philosophy or religion, will change as the decades pass. I can only try to put things consistently, so as to present a thinkable scheme.

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February, 1932

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FACT
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CHAPTER I

THE SUBJECT

Etymologically a fact is an action or event, a deed that is done, a something that has occurred or is occurring. A blow on the head, or a series of occurrences like an ocean voyage with the traveller's impressions, may be a fact. In another and more static sense, things, physical objects, are facts. For modern physics and biology nothing is static, and there are no solid stable things, either large or ultra-microscopic: all facts are events, occurrences or actions. This may be so; but for the story of the many ways in which facts have been taken by mankind, one may note that facts present themselves as acts or occurrences, and again as the things or objects involved in occurrences or continuing in some stable fashion with nothing happening to them.

Primarily one has physical events or things in mind; and the psychical states relating to them appear to be modes of the perception or under-

standing of the physical facts, and reactions to their impact. There is an over-mastering cogency in physical impacts, and this cogency constitutes a dynamic relationship between ourselves, or our psychical states, and the world we live in. The insistency of these impacts, and our conscious relationship to them, make the outer world real to us and give it unity.

The outer world is sensed and apprehended by our physical and mental activities. Are the physical and mental to be regarded as distinct, with the "psychic" a *tertium quid* having a leg in both camps? Such is a common habit of speech, and one slips into it easily, even when trying not to. But my lifelong conviction of the division, to put it crassly, between body and mind has been shaken by cumulative impressions of their ceaseless inter-action. Sometimes the action of the one or the other appears readily distinguishable; yet even then there is still an inter-relation. Is any part of our thinking entirely independent and free from the influence of our bodily state? One is never certain of the complete absence of some mutual conditioning in the action of these two phases of our organic functions. There may be harmony or there may be apparent conflict between them. But is there ever complete detachment or autonomy in the action of one or the other? Is it not always *their* action? even their joint action? I am driven to infer an indissoluble

linkage between them, which in turn implies a common basis of energy.

Consider the inception and constitution of a human being. It is through inheritance of generic human nature that the infant is *homo*, and not some other animal. This human inheritance, along with more specific traits of the parents, are carried by the sperm or egg, and are incorporated in the future human being through the union of the two. Only the physical or physiological phases of egg and sperm and resultant embryo have been studied effectively. But incipient mental or psychic [1] phases, inheritances, functions, must be carried in the same vehicles. The whole character of the new born infant, mental, psychical, physical, would seem to spring from the union of sperm and egg. Whether his germinating activities should all be placed in one category, or are essentially different, is far from clear. But as regarding the primary vehicles and whatever they carry, one vague, comprehensive, and irrefutable statement may be made: they are all alive. And the quality of being alive pervades every subsequent phase of human, as well as specifically individual,

[1] It is not out of accord with conceptions maintaining themselves or varying through the ages, to speak of the psychical as somehow "intermediate" between the mental and physical, and as representing the pervasive quality of livingness. The word mind is often used very comprehensively. As touching these constituents of our very own, and still unknown, selves, the best one can reach is some consistency in the use of words.

growth. All functioning, mental, psychical or physical, involves it. It is evinced in every act and part of the organism so long as this continues a going concern.

Whatever be the difference, bond of union, or element of oneness among all these our active subjectivities, they enter into and shape the factual imprints coming apparently from an objective world beyond ourselves. However cogent may be the impact, the element of our perception or apprehension always enters, and with more or less constructive or creative action. Different faculties, or phases of faculty, — rational, emotional, imaginative — may be called into play by different sorts of occasions or apprehended facts; and the construction or reconstruction of the fact will depend on the nature of the aroused phases of faculty — rational, intuitional, imaginative, or sensational and physical. In all departments of thought or life, the fact is or becomes whatever these aroused mental or psycho-bodily processes arrive at and apprehend as fact; and will depend upon their manner of coördinating it into the knowledge or experience of the subject. The outer occurrences may differ in their character and effect upon the percipient; and the various qualities of his nature called into play will act diversely. But thought and achieved experience build out every perception of a physical event and weave it into the mind's accumulated store. After the first stage of

experiencing activity, the mind acts with more explicit consciousness in coördinating and qualifying the facts which it thinks it has perceived.

How are our subjectivities to be regarded? They may be aroused directly by an impact of the outer world; or their connection with such an impact may be remote and difficult to track. In what respect, or in what quite diverse respects, are sensations, perceptions, intuitions, reasonings, mental constructions, imaginings and sophistications to be taken as facts? They are all actions or events of our mind or body or body-mind. Within these limits they are facts. Their relations or correspondences with the facts or constitution of the outer world is another question, and with it comes the further query, in what respect and degree are they valid constituents of human values, and proper to be relied on by our composite and yet organic selves which are so inexorably involved in an environment of outer circumstance. There is no simple answer to these overshadowing problems which form a portentous part of scientific and philosophical inquiry. I can only say how they present themselves to me within the scheme of this little book.

Our subjectivities are not all of the same character, and bear different relations to the impacts of the outer world. They carry for us different modes of truth, validity, value — vague terms difficult to make more specific through analysis.

In what respect is the specific apprehension or rendering of an outer impact a fact? It is futile to say it is a fact in so far as it corresponds with the actual fact or impact which is apprehended; for only through and according to its apprehension is the outer fact known to us at all. So long as our psycho-bodily apprehensions and our thoughts are concerned with what we take to be a palpable outer or actual fact, there is no way of distinguishing our apprehension and rendering of the fact — our completed impression of it — from any assumed actuality beyond. Were it not for our perceptions, the outer world would not exist for us — which is very far from saying that it has no existence of its own. But for us it is as we perceive it, a fact of our perception. Whether our perception corresponds with what the outer world may be in itself is a problem for the reasoning mind.

Possibly all apparently intellectual activities have some rootage, often well submerged, in the impacts of the outer world. Even moral convictions use physical images. Is thought ever quite freed from forms of sense-impressions? At all events, the apparent contributions of mind and body vary as we pass from sensations, or from passions scarcely tinctured with mentality, to modes of thinking in which the action of the body is inappreciable. A sensation is for us a fact; so is the perception coming with it, and the memory of past experiences. In such recall the participa-

tion of mind becomes more important, even dominant. We have learned and we have generalized. We form principles or convictions out of our experience or from what people and books have told us. The logical faculties or necessities of the mind mould our conceptions and conclusions. Or conviction sometimes springs from insight or intuition, which itself may be a sudden synthesis of submerged experience. In some related manner the imagination imparts entrancing forms to yearnings and ideals. Thus in many ways convictions rise and become the moving energies of our lives, — rules of conduct, part of our characters, the forms of our loves and devotions, as the love of justice or the far-reaching desire for knowledge. Common to many men, they were not born suddenly. Sometimes their historical evolution can be traced. They are not static and inelastic, and grow without necessarily abandoning elements already reached. Thinking of them, I reach back to Plato's "ideas," his "forms," or to choral expressions in the Greek drama as to "those laws of range sublime, called into life throughout the high clear heaven, whose father is Olympus alone; . . . the god is mighty in them, and he grows not old." [1]

The mental and intellectual is convincingly actual in these principles. They may be for us the most real of facts toward which the rest of our

[1] *Oedipus Tyrannus*, 865 seq.

experience and conduct would draw, trying to reach conformity. We may imagine that the obviously sensible and mechanical workings of the world serve just to elicit them. They may make the reason, the very essence, of evolving and emergent life, which seems ever to be passing from a lower to a higher phase. One might grope onward to the thought of mortality passing into a nobler eternity in the life of these principles.[1]

The varying forms of fact and ways of apprehending and understanding, or creating, fact are my subject. I first take note of facts as constructed through those naïve mental processes which make what I call the primitive strain. It is a way of constructing and compounding facts prevalent in primitive communities, but continuing on and on through all civilizations. Its chief creative agents are fear and wishfulness and imagination, all rather unhampered by any progress made in finding out what is not so. Its modes fall under the names of magic, sorcery or witchcraft, which largely are constructed by means of a crude symbolism and the drawing of captivating and false analogies.

The next way of apprehending and constructing fact is closely related to the primitive strain. It also is impelled and partly made by fear or anxiety, by desire and the plastic imagination. Its convictions are intuitive, sometimes guided by reason,

[1] All this is discussed more at length in Chapter VII.

and capable of conforming to the noblest human impulses and ideals. I am referring of course to the facts grasped, or grasped at, in religion — the topic of the third chapter.

My fourth chapter is occupied with other modes of making or perceiving fact — generalized fact or truth. They are as intuitive and imaginative and desirous as religion; but the method may differ and the purpose is not the same. I refer to poetry and the plastic or pictorial arts of imaginative expression.

A short chapter, the fifth, is given to the heterogeneous ways of taking facts practically, by men and women engaged in an active life of social and business affairs. That the active life has no one way of seizing fact will quickly become evident. The start may be from the direct reaction to the impacts of circumstance, those dynamic effects already spoken of as linking us directly to the world. But very soon the active life draws into its grasp and use of fact all modes of apprehension, imagination, creation, that the mind or body-mind can compass. The primitive strain will have its share, and perhaps the religious tendency; the way of art may enter. Nor will the fashions of philosophy and science be lacking. In such "practical" grasp of fact the mysterious compositeness of human mentality is shown beyond all wonderment, to the verge of tears and laughter.

My sixth chapter will be devoted to ways of

apprehending fact in which reason and rationally guided perception hold the dominant rôle. These are the ways of science and philosophy. Along the scientific path, methodical and tested observation seems to lead, and the rational faculties shape the result. The philosophic path follows the imperative reasoning processes of the mind. These control the conclusion, which, however, may take account of the data of methodical observation, as well as of art and religion, or even the total historical experience of mankind. The endeavor to think everything out with ultimate testings characterizes the philosophic fact, or search for it, and the conclusions will be those of the reason or of reason's conscious abnegation of its own competency.

These chapters, as they follow one another, may carry a suggestion of some sort of progress toward more stable fact and surer truth. A negative phase of such progress consists in the ceaseless discovery that one or another accepted opinion, belief or conviction as to fact is groundless or erroneous or untrue. But the sequence of chapters is not meant to imply that each succeeding chapter discloses a more trustworthy kind of fact. The ways of science and philosophy may be no safer than those of religion and art. There is something valid and true in all of them, though least in the primitive strain. The rest contain a sort of better part which tends to survive and hold its own with

other ways of seeing fact, and may even join with them and enter into their results. In the seventh chapter, I will try out this thought, as well as my groping conviction that the surest facts for us are those which best accord with our whole nature and satisfy it, and fall in with our coördinated experience. The book concludes with a chapter of historical illustrations.

CHAPTER II

THE PRIMITIVE STRAIN

Abysmal differences seem to yawn between primitive peoples and our civilized selves.[1] Quite obvious are the abysms between their outer mode of life and ours; they have not built up or accumulated any large material civilization. There seems to be a difference between our mentality and theirs. Our minds are clearer, and we have advanced much further in finding out what is not so, and in discovering the speciousness of human imaginings. Undoubtedly the primitives differ from us; but how?

Any tribe reaches a given stage of development from the interaction of its qualities and the opportunities and hindrances of its environment. Here should be found the reasons why the primitives have reached the stage at which we find them, and again why we ourselves have advanced much further. Man acts according to his nature, and chiefly by using the resources of his environment or

[1] The peoples who are regarded as proper subjects of the loose yet hopeful science of anthropology are called "primitives." Through reasons of convenience, study is focussed upon existing or recently observed tribes.

under the stress of its compulsions. Conversely any environment affects man, crushes or sustains or draws him on, according to his fitness, — his weakness or his strength and faculty. Besides natural conditions, environment includes the other races with whom a people comes in contact; and again the abilities or energies of any people have much to do with the effects upon them of foreign peoples or civilizations. What is stimulus and education to one may injure another. Some primitive tribes have gained little except disease, depression and death from contact with civilization. Apparently differences of physique, temperament, culture and circumstances, as between two races, may be such as to prevent the more backward one from profiting by the intercourse.

Probably no people is quite stationary, though the progress of primitives would seem to have been slow. The negroes of Africa do not appear very different from those portrayed on ancient Egyptian monuments. Perhaps the South Sea Islanders were slowly changing when they first fell in with the whites, and encountered our rather fatal insistance that our ways were better for them than their own. Yet without rubbing up against clever strangers, no people appears to have made much progress either in thought or in the arts of life; and the primitives have usually lived remote and in small tribes.

Men must dominate and use their physical

environment, or it will swallow them. They have to build from it their material civilization. As between various peoples, from the dawn of articulate history, houses, roads, clothes, utensils, crops have differed in measurable volume and apparent excellence. There may have been degrees of energy and practical ability in the builders. It is hard to escape the conclusion that the peoples who never passed the primitive stage have had less of these qualities than the races who were to develop notable civilizations. Yet various adverse influences may have held them back, — for example, extreme conditions of life, whether ultra-tropical or arctic.

But material civilization and practical ability are not the whole tale of human faculty and its functioning. Our present primitives, as well as the early folk whose descendants distinguished themselves, have been curious as to things still beyond human ken, like the origins of the world and its denizens and the fortunes of the soul. Where there is no knowledge, the imagination has the freer play. Some members of early or primitive groups have loved to wonder and dream and make wishful schemes of things, — cosmogonies. Such imaginative, mythopoic speculations are not always of quite the same quality. Yet it is hard to estimate the differences. Cosmogonies and ideas concerning man current in Egypt or Vedic India or early Greece are not superior to those of the

New Zealand Maori or the North American Indians. Maori ideas of the human organism resemble the Homeric; Maori speculations on the world's origin have a Vedic tinge; and their account of the order of creation closely parallels the first chapter of Genesis.[1]

Unfathomed feeling as well as speculative curiosity impelled such thinking and dreaming. Yet there may have been a more developed brain, with some intellectual superiority, in the early peoples whose better sort were destined to enlighten other races. Such a superiority lies in the persistent endeavor to discard what appears incompatible with further observation, and in a capacity for methodical and logical thinking. Primitives show nothing like the capacities bringing about the philosophic and scientific advance traceable from Thales on through Anaxagoras, Parmenides, Heracleitus, Democritus, to Plato and Aristotle. It sprang from mental qualities in which the persistent primitives whom we know have evinced scanty share.

[1] I would refer to the quotations in P. Radin's *Primitive Man as Philosopher*, pp. 294, 301, 326. I am always sceptical as to whether the words and statements of the primitives carry such meanings for them as the English or French or German words used by the translator bear for us. As for the imaginative ideas of the Maori, see generally S. Percy Smith, *Lore of the Whare-Wananga*, Vol. III, Memoirs of the Polynesian Society (1913), and Elsdon Best's *The Maori*, Memoirs of the Polynesian Society, Vol. V and VI (1924). In recent years the Maori have proved capable of civilization, and now vie with the whites of New Zealand in the professions of law and medicine and holding office.

One may doubt whether any people besides the Greeks evolved of themselves a marked capacity for both philosophy and science. The philosophic Indian may have equalled the Greek in dialectic and methodical thinking — qualities not evident in our primitives. But the Indian mentality lacked those curiosities and perceptions and quick adaptabilities which gave a grasp of things to Greek philosophy, and created Greek science as its fellow. These qualities enabled Greek philosophers and scientists to go further than the authors of the Indian Upanishads in finding out the sort of things that are not so. Possession of some transcendent qualities, and lack of others that stood the Greeks in good stead, make of the Indian intellectuals a remarkable instance of the persistence of the primitive strain with people of high mentality.

For another example, the Japanese have taken over scientific thought and investigation from Europe and America, and now have excellent scientists. But of themselves they had never evolved a scientific attitude toward the world of nature or made any scientific advance. A curious illustration of this is their great novel of Prince Genghi, charmingly translated by Whaley. This famous historical romance written nine centuries ago, presents a picture of the Japanese Court of the time. The reader will not lose his impression of the refinement of manners, the exquisite taste

in music, painting, handwriting and verse shown by this sophisticated society. In the course of the tale the Empress is to bear a child. Throughout the realm thousands of doctors (magicians rather), are summoned. They assemble and fill the palace. Day and night they keep up a storm of clamor, shouting spells to drive away malevolent demons from the accouchement, and bring child and mother safely through. The Empress survived. Such conduct is on a par with the practices of Melanesians and other primitive savages.

By 'primitive strain' I do not refer to the physical impacts of the outer world upon beast or man, but to what the primitive nature makes of them. All phases of psychic or psycho-body action follow the bent of accumulated experience and notions of objects and the ways in which events take place. Any society, savage or civilized, is characterized by its notions of fact. The primitive's idea of fact in some way shapes itself to the coil holding his life, — the natural environment of peril and support, and the tribal group to which he belongs, body and mind. Speaking rather loosely, as one must, the primitive strain means to me the view of life and fact falling under the heads of magic, sorcery, witch-craft, totemism and taboo, and the worship of stocks and stones and demons.

The primitive has survived because he is practical in handling the direct impacts of his

environment. He makes his spear or bow and arrows effectively, and uses them with skill; he has learned the ways of animals and fishes to his profit; he takes measures to feed and protect himself and family; he shows self-control and tact in his exceedingly close relations with his clan.

So far, with scantier resources and less knowledge, he acts as we do. But he increases the efficacy of practical acts with magic spells and sorcery. These imply notions that men and things may act upon and control each other in ways accepted by him as facts, but which we hold not to be facts at all. It is a fact for the primitive that the cast of a spear will be baffled by a spell: — that spear and spear-cast are such facts, and a spell is such a fact that the spell may turn the spear aside. In hunting, fishing and fighting, effective measures are employed and knowledge shown; but magic or "medicine" is used to insure success. Believing that diseases or wounds and death are caused by demons or the malignant "medicine" of sorcerers, the primitive thinks they can be prevented or cured by stronger counter spells. That is to say, again, a disease is such a fact, and death is such a fact, and the magic of a sorcerer is such a fact, that his spell will cause disease or wounds or death unless it be deprived of power by the mightier fact of a stronger counter-spell.

It is not easy either to account for or understand these persistent and frequently harassing convictions, which seem so foolish. But one should try to realize, however dimly, the vast psychic background, which still effectively enters and works within all modes of primitive belief and conduct. It reaches back into an animalism where experience is a confused coil of fears, instinctive escapes, startled impulses, responsive imaginings, actual satisfactions and catastrophes, all carrying but blunt perceptions of how things move and act. This background has fashioned the mental and physical nature of man. Impressions have stamped themselves, have become tendencies, habitual acceptances little affected by detached perception or rational control. Through countless generations this cumulative inheritance of experience-becoming-nature makes part of the gradually developing human mind or soul-and-body individual. The results come under the observer's ken as taboos, which are fears conventionalized into forms of behavior; as rites, which are an emotional release as well as a way of effecting ends; as spells made by the arts of sorcery and magic out of psycho-physical confusions. They are all means of coercing other men and women and controlling the spiteful spirits of the dead and the demons incorporate in natural objects.

Primitive man is but a crude judge of ways and

motives of action throughout his world, composed of men and animals, of trees and sticks and rocks. He is roughly conscious of himself and how he acts. He sees no reason why things about him should not act as he acts. It has not come to him to distinguish among motives or modes of conduct. Such discrimination, far from being the basis of his thinking, is not even recognized as a goal. Enormous mental progress is involved in reaching it, making indeed a good part of the story of mankind's intellectual emergence.

All human functions carry the vital impulse. Man's imagination (to use a word as indefinable as any other psychic term) is spurred to action by the animal and human desire to live and be strong, or by the related impulse to escape injury and death. The primitive is no halting analyst, and has made little progress in finding out what things are not so. Interwoven with desire and unhampered by knowledge, his imagination constructs means to carry out the impulse to live and escape death. Other men are moved to act or stopped from acting just as he is. Then why not animals and things? He has felt the power of the uttered word — why is it not good against a disease or an arrow? Hence the magic spell, which, with the sorcerer's art, seems born of imagination and desire for an end. Imaginings, thoughts, have always been convincing with primitives, and readily convertible into wished-for realities.

The life of a "savage" is constrained by myriad anxieties, taboos and fears. He is afraid of his world of forest, plain and jungle, with its contents which may destroy or feed him. His best safety lies in a counter-complexity of magic charm and a most careful stepping so as not to arouse the evil spirits of the wood — every tree has a spirit. The world is a world of spirits, as baneful as he himself may be. Everything is brought about by a spirit. An Ashanti doctor finding that some plant cures a disease, thinks it has a spirit stronger than the disease.[1] No belief is more universal among primitive and half-civilized peoples than that all diseases are the work of spells and sorcery or an infliction from the gods.[2] Unique in the world was the enunciation of the Greek Hippocratics that every disease has its natural cause and should be treated accordingly.

When not stimulated by desire, the imagination may act from its impulse to function. It plays and rejoices in its own activity. Through it the unknown takes form. It creates schemes of composition, and turns the haunting vacuum into a picture. It may draw a pattern of the nature of

[1] R. S. Rattray, *Religion and Art in Ashanti*, p. 39 (1927).

[2] I would not dare to say that primitives recognize no natural disease. I have heard that some African tribes find a natural cause for certain diseases, hook worm for example, and treat it with natural remedies. One guild of a certain tribe is alleged to practice effective inoculation against the poison of snakes. I recall no reference to natural disease in the *Iliad* or *Odyssey*.

man, produce wonder pictures of the beginnings of things and make a story of how the world came to be. So cosmogonies are imagined, although elements are drawn from experience of the surrounding world.

Thus through experience, perception, intuition and imaginative construction, often along lines of fancied analogies, primitives build out their concepts and convictions of fact, — as to how things come to pass, how they act, and what they are. Such facts tend to grow in compass and complexity. Primitives love their fancies, so indistinguishable from realities. Following fancy, letting imagination play, they take pleasure in devising ceremonies, rites, taboos, rules of social conduct, pregnant with symbolical meaning and believed to be effective for the wished for end.

If such facts seem to us baseless and absurd, none the less they may be sedulously reasoned. Confused impressions and crude acceptances are made into consistent rationalities. The facts of magic and sorcery are drawn out and systematized just as the gospel of a fresh religion is made into a theology. And, like religious facts, the facts of magic gain form and a pseudo-rationality through processes of symbolism, which may originate in a field where there is no distinction between symbol and the thing symbolized. When a difference is perceived, the savage becomes a mystic and merges his distinctions again into an identity of

symbol and symbolized. Copious suggestions are drawn from similarities of appearance and supposed analogies of function.

Primitive beliefs did not come suddenly. They seem to emerge from a clinging background of acceptances and to take form under its inhering effectiveness. They render its dumb implicitness manifold and distinct and conscious. No one knows how they became such as we find them. Can we speak of an evolution? Any rite or custom somehow began, and may have afterwards acquired a traditional and authoritative form. But how do we know that it was formed gradually? And what do we mean by evolution? How can one apply such ideas as natural selection, survival of the fittest, sexual selection, or mutation? In what respect is a rite fittest to survive? Any rite or acceptance of fact may have come from some impulse or desire and the answering fancy; it was interesting and gave pleasure; it may have been sheer play. Ceremonies may be fanciful, whimsical, sudden intuitions, all amusing to the primitive man.

Perhaps it is not solely through ignorance of circumstance and detail that we cannot state the process by which such acceptances of fact and the customs clothing them came into being. Another reason lies in the disparity between different psychic processes and the difficulty of formulating or stating one of them in the terms of another.

Possibly the intellect cannot formulate that which is neither intellectual nor reasonable. It may be that we cannot rationally understand, and so cannot express through intellectual formulation, things that have been done or brought into being, largely without reason, through intuition, impulse, and the action of the imagination.

Our friends the anthropologists furnish us with abundant illustration of the primitive strain among contemporary primitives; while writers on folk-lore and custom and ancient magic and mythology give equally abundant and quite analogous examples from the older world. There is little need to point to the survival of primitive phenomena among people who, in other ways, are far from primitive. For all varieties of primitive strain observed among recent primitives or our early ancestors are seen to flourish in notable civilizations. Through long periods such strains of phenomena may be elaborated and added to. Then they may gradually decline, so as to represent a smaller proportion of current mental activities and acceptances of fact. In some societies the primitive strain of beliefs will become folly to the more intelligent; until finally, as in our modern world, it will keep its credit only with the stupid and the ignorant.

Usually these old notions and beliefs have not fallen before direct attack. They lay themselves down on the rubbish heap when there is no longer

place for them in the conception of the world held by the better part of the community. Yet they are never quite snuffed out; but still in dark congenial crannies maintain a disreputable and infectious existence. There has been no time when old discredited notions have not continued to work upon the massed unyielding ignorance of man. An indefinite inconsistency of thinking exists in any society and even in the single (single indeed!) individual.

A few scattered illustrations. The civilization of ancient Babylonia had advanced far in the regulation of society and business. The law of domestic relations, the law of property and commercial obligations, all as set forth in the Code of Hammurabi (2000 B.C.), might be compared with the law on these matters obtaining in France at the outbreak of the Revolution, or in England and America about the same time. France offers the better comparison because the Babylonian law governing the rights of married women, for example, has a Latin rather than an English tone.[1] It is a far-fetched, though tempting, notion, that Hammurabi's Code or Babylonian law in general influenced the Civil Law of Rome, and so indirectly affected the law of well Latinized countries like France.

[1] See for example L. Delaporte, *La Mèsopotamie;* les Civilisations Babylonienne et Assyrienne, 1923. (In the *Evolution de l'Humanité* series).

This was the best side of Babylonian civilization. On the other hand, diseases were held to be the work of demons, and everyone knows Chaldea as a well-spring of spell and magic rite, divination by the liver, astrology and many other manifestations of the primitive apprehension of fact. The widespread superstitions of Mesopotamia persisted through the centuries more visibly than her rational and lucid civil law.

A more placid land was Egypt. Life had there a benignancy unrealized in Babylonia or its tiger-sister, Assyria. Egypt's material achievement had massiveness and dignity and beauty. But the Egyptian mind was neither analytical nor discriminating. It moralized excellently in ways helping to bring about a sane and wholesome way of life. But primitive acceptances of fact were not cast off. Ethical and religious thought reached the conviction that blessedness after death was for those who had led just lives on earth; yet equally effective was the magic spell. The "Book of the Dead" is full of magic formulas; and the same medical papyrus that offers a reasonable treatment of wounds and disease, recommends the help of magic spells. The primitive strain of magical acceptances of fact never waned in Egypt. She was like a Christian Scientist with a sore finger, who has a surgeon treat the infection and at the same time employs a "healer."

So we come upon no Egyptian disavowal of the

magic spell. And I am not aware that there was any efficient renunciation of magical practices in India during the periods when the Indian mind constructed the metaphysics of the Upanishads and the Vedanta. A stupendous maze of symbolism, wherein the symbol became the thing itself and prayer its own assured fulfilment, led to no useful discriminations. Indian sages did not clearly reject either spells or the magic power attained through austerities.

We could easily lose ourselves among myriad examples of the failure of civilized views to drive out the primitive strain. Greece and Rome may quickly be passed over. As already said, the Hippocratics held that every disease had a natural cause and should be cured by corresponding measures. Yet Hellenic peoples never abandoned magical practices, though the intelligent viewed them askance.[1] A late Hellenic system, Neoplatonism, explicitly embraced them. In the Rome of the Republic and the Empire, men educated in Greek philosophy were inclined to disbelieve in magic and divination.

Through the Christian Middle Ages, save as the religious authorities forbade the black art, magic was accepted with other modes of supernaturalism. Later the sixteenth and seventeenth centuries,

[1] Euripides was a marvellous reasoner and sceptical, yet in enumerating the god-given blessings of civilization, he includes the soothsayer's art. *Suppliants*, lines 211–213.

throughout the most civilized parts of Europe, show a resurgent prevalence of witchcraft and astrology, the former criminal, the latter approved in the highest quarters. It is a far cry from ancient Babylonia to Tycho Brahe and Keppler; but astrology carried across the flow of time, and these great astronomers were noted horoscopists.

A hundred years ago magic and the occult spread pleasing shudders through the works of the Romantics, as in Scott's *Lay of the Last Minstrel* and Coleridge's *Christobel.* Several of Balzac's novels are touched by a like strain. But the present fiction-reading public is hardened in disbelief. Such kinds of facts are no longer even imaginatively convincing, and have lost much of their literary interest. Yet even as I write these lines, the newspapers tell of ten thousand people crushing and trampling each other in a cemetery at Malden, near Boston, Massachusetts, about the grave of a Roman Catholic priest who died fifty years ago. They are convinced that his tomb works miracles and cures disease. The Church authorities do not discountenance this belief. Why shall not Massachusetts have a Lourdes or a St. Anne de Beaupré?

In conclusion one may remark that the primitive strain lives on not only in the natures of the more ignorant among us. For it enters more intelligent modes of apprehending fact. Evidently it makes part of religious fact and is not absent from the

facts and activities of art and poetry, or from the convictions of the practical life. It shows in stages of scientific development, as in the passage from alchemy to chemistry and from astrology to astronomy. And philosophers have not been untouched by it. These primitive persistences may be connected with the wholeness of our psychic or psycho-body natures, which do not work through isolated faculties or deposit their convictions in separate packages. Animal traits, cave-man survivals, carry on into religion, practical life, art, and even into science and philosophy. No working of our natures is completely severed from the rest. And as desire does so very much to shape the convictions or facts of magic and religion, in altered guise it does not cease to influence scientific and philosophic acceptances.

CHAPTER III

THE RELIGIOUS APPREHENSION OF FACT

So far as concerns the savage origins of magic and religion and crude stages of the latter, attempts made to distinguish between the two seem to have been unsuccessful. The magic spell is said to compel compliance from whatever man or animal or thing it is directed at, while religion begs; and a state of purity or holiness is required of the suppliant approaching his god.[1] This distinction may hold for advanced stages of religion, but scarcely reaches back to the savage beating his fetish. Such an act knows no difference between prayer and compulsion. In general the distinctive features of different modes of thought and conduct cannot be found in their confused beginnings.

A religion is said to assume or construct some view of the world; but this may be true of magic. Religions create cosmogonies; also make their votaries into a clan; they constitute functions of society. All this is true of religions when they have emerged, not necessarily from magic; but

[1] This may be required of the medicine man or sorcerer.

when, out of a state of brutal crudity, they have reached clearer forms. Then differences between magic and religion may become apparent. It is religion that embodies more palpable progress or emergence, and advances with the human development of its votaries. Magic may not be altogether static and unchanging; but it is comparatively unprogressive, and through periods of civilization will continue to represent the primitive strain of ignorant credulity. Moreover it remains selfish, does not become broadly ethical and social, or consider the welfare of the tribe.[1] It shows small capacity for becoming the common unifying creed of a people. Religion is more apt to draw upon the acceptances and principles which are so great a part of the coherent and stabilizing forces of a society.

Even at the risk of making still more vague the conception of that which is vague and various enough, I must warn against regarding religion too specifically, as if it were simple and definite, an entity to be defined. Definitions of any social institution are hazardous. Who shall define law?

[1] Here again one must avoid sweeping distinctions between magic and religion among the primitives. Magic and sorcery may be a moral and even punitive power in a primitive community, making for the conservation of recognized rules of law and custom. See B. Malinowski, *Crime and Custom in Savage Society* (1926) and especially the references in the index under "magic" and "sorcery." Even when religion has emerged, and become great, like mediaeval Christianity, there may be magic elements in it; for instance, the *relic* and its magical effects.

who shall define custom? and who shall thus define religion? One must win through to a working conception of it, by following the manifestation of certain human needs and answering faculties — themselves also incapable of definition as entities. Without defining religion one may observe the way men feel and think and act in the realization of certain phases of their nature. One may see these phases following certain directions or holding together in certain modes, which are called modes of religion. One may see these modes and phases embracing much that is strong and good and valid in the natures of men; see them holding to certain ways of apprehending fact, and to certain kinds of fact; and reaching and asserting convictions as to these facts through mental or psychic processes, which may be those of intuition rather than those of sense-perception or the discursive reason.

So I would not define religion, but observe the working of what are called religious manifestations. Neither do I think that one should attempt to define magic or sorcery; but rather follow the manifestations of acts and beliefs set under these two names. And again it becomes evident how more than futile is the attempt to distinguish sharply, as it were by insistent definition, between the origins or early stages of what we call magic and what we call religion. But we can say that as archaic peoples mature — or as we note degrees of development as between one society and another

— we perceive that the beliefs and apprehensions of fact grouped under the name of magic do not represent an ever broadening and mutually corroborating range of human needs and faculties, such as are called forth and employed through the group of activities and beliefs making what we call religion.

We should also be careful when speaking of the effect of religion upon a society. For the manifestations we have in mind are the exponents or expressions or functionings of human faculty. Hence, rather than anything like distinguishable cause and effect, we may find in them a broad group of mutually enabling and productive conditions. The characters, and in general the qualities, of a people are shown in the religion practised by them. The religion as accepted manifests the qualities of its followers. And if we look for a divine source, why not think of that source or creative inspiration as evincing itself in human qualities and their functioning? This is to see deeper than to find the divine effect in some outer form of revelation or command.

Yet a race or a society is never homogeneous, and includes very different people. There may be certain among them, or one supreme individual, gifted with superior or unique faculties of the kind which manifest themselves religiously. This superior sort may originate such religious forms, or this supreme individual may present such tran-

scendent grasp of religious fact, that the society will be informed and stimulated, and its religious faculties begin to function more energetically or on a higher plane. There are also many instances of a religion introduced from abroad, by people of another and perhaps more advanced culture. The native folk seem to be converted to the new faith and to accept it. Yet history shows that in spite of change of creed, the society is not radically changed even in the quality of its religious functioning. Change of creed may not work a change of mentality or character; and the society is apt to bring the new religion down to its ways of apprehension and conduct. The concepts and precepts of the new religion which are beyond the power of the society to appreciate or conform to will in practice be altered or ignored.

The instance as to which we are best informed is the nominal conversion of the Greco-Roman world, and European peoples beyond its boundaries, to the faith manifested by the life and teachings of Jesus. Ardent men and women of his own and the following generations were profoundly affected. Such accepted the faith with their whole strength, but yet according to their understanding. It was not the same or apprehended under the same forms as with Jesus; for they were not he, and had other traits and faculties and habits of thought. These leaders affected the world with their thoughts, their enthusiasms and

fanaticisms. A new and ardent religious belief, or apprehension of religious fact, was manifested. The human nature of the converted world was not deeply changed, though much human rancour clothed itself in religious disputation. Among the northern Teutonic peoples the Saviour and his Saints were conformed to the natures of their barbaric and warlike votaries.

Thus the actual apprehension and application of Christianity took place along the lines of habitual conduct and prevailing qualities of character. The mental and moral qualities of mankind, including the faculties functioning in religion, went on and grew and developed, or might decline, within the forms of the Christian faith. It offered, however, abundant stimulus and scope for spiritual advance; and under its suggestions and commands many men and women developed sweet and admirable human qualities, it may be, sweeter and more admirable than ever had been known. But the world at large marched on, following its lusts under the banners of the new religion.

What do I mean by religious fact? That which is a fact for men arises in and through the mind's or body-mind's apprehension, conception, or construction. This is true of religious fact. The apprehension of it and belief in it or conviction of its actuality, arise in the working of human faculty, though not necessarily the faculties of

sense perception and reason acting upon observed data. Rather the faculties primarily active seem to be those of feeling, intuition, imagination, impelled and directed by a variety of emotions and desires, or working because of the tendency of any human faculty to function.

I conceive religious fact to be an apprehension or conviction of the divine ordering of things. It answers to our need to comprehend the world and the *creature* which many of us feel ourselves to be. Demands of one's intellectual nature as well as the sense of one's own insufficiency and frequent helplessness evoke a conception of the divine and give it form. There comes an apprehension or a conviction of a god having power to create or direct, and to help. The elements of our nature requiring help or looking for explanation include many activities of mind and body. They appear to converge in a feeling, an emotional yearning and desire. This is a directly moving and constructive factor of the two complementary religious facts; a divinity capable of answering these human needs and a conviction of man's relation to the divine. The result is not necessarily utterly man's own creation, since a divine power may have so formed his nature that it has these needs and answering constructive faculties.

Religious fact cannot be perceived like a stone or tree. It is not a fact of sense-perception, and lacks that support. Nor is it altogether of the

reason, which may shape, and yet cannot altogether make it. But religious fact refuses to be put out of court because not found to be perceivable or such as reason can confirm. It has its own conviction, which is rooted in the individual's nature and general experience. If the conviction is intuitive it may nevertheless be a symbol of many thoughts and feelings.

Under primitive conditions religious fact, like magical fact, would seem to spring chiefly from the votary's consciousness of need and his imagination urged by desire or fear. But although, as already said, one may not distinguish religious from magical fact in their origins, there will soon be found some parting of the ways. For, in its emerging progress, the apprehension or construction of religious fact may draw from an enlarging round of human nature participating in its creation and support. There may come a deeper sense of sinfulness and of the spiritual needs of sinful men, while to make up for all they lack and sorely need, the imaginative idealism of the worshippers, or rather of the gifted ones among them, will raise and perfect the spiritual qualities and contours of the object of worship, which thus becomes a lofty anthropomorphic god.

This is illustrated by the story of Yahveh through the successive books of the Old Testament. We first meet with him as the god of an individual and his descendants — Abraham, Isaac, Jacob, and

the Twelve Sons. They become a tribe, twelve clans or tribes of them; and Yahveh is the god who through his goodwill and might brings them out of the land of Egypt and establishes them in the land promised by the same god to Abraham and his seed. Yahveh, his character and his conduct toward the Children of Israel, are the great religious facts for Moses and the leaders and Judges after him.[1]

So far Yahveh is the god of the Tribes of Israel. Mightily and fiercely he aids them to conquer their enemies and hold themselves a people. Their worship of Yahveh and obedience to his commands form the active principle of their political independence and racial union. Their experience of social order and disorder, of prosperity and disaster, work together to support their conviction of Yahveh's beneficent or hostile efficiency, which is for them the supreme religious fact.

With the great line of Israel's prophets, Yahveh does not cease to be peculiarly the god of Israel; but his personality, righteousness and power are exalted and universalized, till he becomes the sole real and mighty god of all the peoples of the earth. His power is sufficient for his universal rule; his holiness and righteousness make his commands just for all the nations. These were the central religious facts apprehended or created by the

[1] Of course, I am simply following the Old Testament narrative.

genius of the religious leaders of the Jews. It is a story known to all students.

Its sequel is the story of Jesus. He drew from the prophets the elements of his religious facts; but he gave life to them as members in a living whole. As a religious seer, he apprehended and realized the divine and human facts which he made into his life and declared in his gospel. They became realities in a life of assured communion with God. His religious facts were supported by the concurrence of his entire nature; no testimony of experience, no thought, no act of reason, cavilled or dissented, or failed to coöperate in their support. His nature was at one in its conviction, or its creation, of these spiritual facts. And no one of Jesus' disciples, or followers in generations to come, but could bring a large measure of his faculties to accept and coöperate with the religious facts manifested through the life and teaching of Jesus.

Jesus and his followers were sure that their fundamental religious fact, the spiritual fatherhood of God and the sonship of man, was immediately and most intimately inspired by God. In whatever sense this religious fact or conviction may possess or lack objective truth, its acceptance seems a functioning of human faculty. And since, in general, religious fact comes through the functioning of the human faculties adapted to its apprehension, it is apt to weaken or fall away with

the waning of their activity; and their activity is likely to slacken, and certainly does slacken relatively, as other activities preponderate. For example, as men become absorbed in worldly affairs or in the direct investigations of natural science, they cease to be so keenly and constantly conscious of religious fact.

Although religious facts may spring largely from intuition and imagination, this need not invalidate them. Every mode of apprehending fact is a functioning of some phase of human faculty. Intuition and imagination have their validities; sense perception and reason have theirs. Moreover, just as many experiences of life may help to confirm religious fact, so other phases of faculty besides those primarily active may contribute to the same end; thus the reasoning nature of man may employ itself in systematizing and rationalizing religious facts. Doubtless the reason has always acted almost concurrently either to confirm or criticize that which feeling and intuition recognize. It may be that no phase of the human psyche ever acts alone or without moving other phases to some activity. When, however, the philosophic and logical faculties set themselves to rationalize religious fact and make a system out of it, the process and the result are different from any prior intuitive conviction, and constitute a theology. Such rational formulation is quite another sort of religious fact. It may carry feeling

and emotion, and possibly will present the substance of the primary intuitional or imagined fact. But it is a different and subsequent process, and presents its result in at least a different form.

A chief means of making religious fact tangible and giving it a body is ritual. The religious intuition gains form and substance from material objects and through physical acts — is made actual in a manner demanded by a creature who has a body for his soul, if not a body-mind. Ritual presents or symbolizes the religious fact through imitation. It intensifies the intuitional conception and raises it to a mightier emotional reality. Finally, ritual may bring the religious fact to pass magically. Thus through a threefold function and effect, ritual presents the religious fact in material form, proves and clinches it emotionally, and produces it magically. The three functions combine and pass into each other.

Such effects are accomplished by the ritual of savages, by the ritual of an industrial and esthetic civilization like that of Egypt, and by the ritual of a people of the incisive religious genius of the Jews. The Christian ritual also is creative of religious or magical fact. Baptism and the Eucharist are "mysteries" carrying magical effect in the writings of the Church Fathers. The spiritual purification, the required change of heart, is emphasized; but it is also stated that in baptism the simple water has, by invocation of the

Trinity, acquired a power of holiness — *δύναμιν ἁγιότητος*. Likewise the bread and wine of the Eucharist, cease to be bread and wine and become the body and blood of Christ, and have the effect of making the partaker immortal. They have become the *φάρμακον ἀθανασίας*, the drug of immortality, as with Ignatius in the second century.[1] The element of magic is here, hardly submerged.

I put this matter baldly. It might be rendered with larger truth in its early Christian setting of ardent faith, love of mysteries, and carelessness of observed fact. Such qualities promoted allegorical interpretation of Scripture and a universal symbolism in which the symbol tended to become the fact symbolized. The world was looking for some form of deliverance, and seeking it in mysteries and magic. Refreshment and truth were found in symbolism and allegory, while but a waning interest was taken in physical impacts.[2] The Gospel of Christ was a gospel of salvation — the salvation of men and women to eternal life. The salvation lying in the relationship between God and man was its primary fact as well as aim. This supreme fact was destined to bend to its own

[1] Cf. my *Classical Heritage of the Middle Ages*, pp. 95 sqq.

[2] I omit the details, which may be found, perhaps sufficiently set forth, in Chapters I–V, and XXVIII–XXX of *The Mediaeval Mind;* in Chapters II and V of *The Classical Heritage of the Middle Ages*, and Chapter VIII of *Prophets, Poets, and Philosophers of the Ancient World* (also called *Deliverance*).

nature and purposes the apprehension and understanding of all other facts. They were subordinate in the Christian scheme, and had to conform to the fact which held all that was of highest worth and surest verity for men. Other experiences of fact must shape their actualities, their factualness and reality, to salvation as a standard and criterion. Their being facts depended on their relationship and conformity to the supreme fact.

But this supreme reality of salvation is above all a spiritual fact, even though as a necessary incident the dead shall rise up bodily. It consists in the spiritual state of the believer, his spiritual relationship to God, and is in no sense dependent on the condition of the body. Consequently the innermost reality of all things embraced in human experience will consist in their spiritual significance. The reality of material things and of all that visibly takes place in the world or has occurred in past history, lies in their bearing on salvation — salvation either as shadowed forth by a preparatory or prefigurative past, or as presently and fully offered by the Saviour. The reality of natural things and historical events is in their saving function, their value or utility for the salvation of souls and the glory of God. The historical events of the Old Testament carry a moral lesson, since they help to prepare man to accept the saving discipline and eventually the saving love of God. So they gain a spiritual value.

But the deeper reality of such events, just as of natural objects, lies in their symbolic quality, their inner meaning which points to some aspect of the great spiritual fact, salvation. Their quality of signifying or symbolizing the spiritual fact is the most veritable reality in a physical thing or an historical event.

The psychological story may have been as follows. The Church Fathers, who led the Church in the early Christian centuries, were exclusively interested in Salvation. They had no scientific interest in plants or animals or other aspects of nature; and very little in the so-called literal truth of history — which was for them but the "letter that killeth." They cared supremely for the spiritual significance of visible things and historical occurrences, their illuminating value for the Christian faith. This absorbing spiritual or symbolical significance became for them the very reality, the underlying and veritable fact. All things were made for man, and so ultimately and really for the salvation of his soul.

To Origen, for example, and Gregory of Nyssa, the reality of natural facts lay in the spiritual ideas suggested or involved in them. Their thought resolved the world's reality into the world's moral and spiritual meaning. That was the real fact. For Augustine the Creation was a great miracle; its purpose was spiritual, leading on to the *City of God*. History is an exemplification of God's

providence; this is its deepest verity, its effective fact. What is real in the event or the natural fact is its saving value or purport; what is physically apparent is a symbol. The true and real interpretation of history, above all of sacred history, is allegorical. Historical events *are* allegories.

Magnificent illustrations of these ideas are offered by the *Celestial and Ecclesiastical Hierarchies* of Dionysius the Areopagite — Pseudo-Dionysius as he is called — a fourth or fifth century Christian Neo-platonist.[1] The *Celestial Hierarchy* contains the mysteries of the Kingdom of Heaven, — the mystery of God and his relations to mankind. The Ecclesiastical Hierarchy is the symbol of the Celestial. But in every branch and act the Church on earth is more than symbol: it is a mystically wrought realization of the Celestial Hierarchy.

Before the time of Dionysius the sacraments embodied the divine and spiritual. In them the symbol had become the fact symbolized: the bread and wine are the saving body of Christ, in fact and entirely; the apparent substances exist no longer; they have been *transubstantiated.*

The substance of church symbolism and allegory came from the time of the Church Fathers. I have elsewhere shown to the best of my abilities how deeply it was felt and how brilliantly it was carried out in the Middle Ages. What the

[1] See *Classical Heritage of the Middle Ages*, pp. 82–90.

mediaeval thinker saw he looked on as a symbol; what he read he understood as an allegory. For him the reality lay behind and beyond, in that which the symbol symbolized and the allegory veiled. This conviction comes to complete expression in the twelfth century with Hugo of St. Victor's treatise on the Sacraments.[1] There the whole Creation is shown to be a symbol; Scripture is an allegory; the Church's means of Salvation are the Sacraments, which are perfected symbols. The world was made for man; man's body was made for his soul; the world's deepest reality is spiritual.

Hugo's conclusions are summed up in *The Mediaeval Mind:* "The rational and unseen are a world as well as the material and visible. The sacramental quality of the material world lies in its correspondence to the unseen world. When Hugo speaks of the 'sacramenta' in the creation of light and the waters divided by the firmament, he means that in addition to their material nature as light and water, they are essentially symbols. Their symbolism is as veritably part of their nature as the symbolical character of the Eucharist is part of the nature of the consecrated bread and wine. The sacraments are among the deepest verities of the Christian Faith. And the same representative verity that exists in them, exists,

[1] On Hugo and his works see *The Mediaeval Mind*, Chap. XXIX, Vol. II, pp. 87–101.

in less perfected mode, throughout God's entire creation. So the argument carries out the principles of the sacraments and the principles of symbolism to a full explanation of the world; and Hugo's work upon the Sacraments presents his theory of the universe."

Such appear to be the principles of Christian symbolism. They were carried out in the Liturgy of the Church. The Mass became symbolical from the *introit* to the final benediction. The sculpture of the Cathedral, its painting and stained glass, present a like symbolism. Indeed symbolism and allegory are the universal keys with which to unlock the meanings of sacred mediaeval art. The church building, the Cathedral itself, in all its parts, was likewise taken as a symbol and an allegory.[1]

For the sake of brevity I have spoken of symbolism and allegory in Christianity alone, and have passed over their prodigious rôles in other religions, the ancient Egyptian for example, or the Indian religion and philosophy. One will find symbolism an element of all religion, a very part of all religious fact. Says Wordsworth: "The religious man values what he sees chiefly as an 'imperfect shadowing forth' of what he is incapable of seeing." [2]

[1] For the story, see Chap. XXX of *The Mediaeval Mind.* Compare what is said of these matters from a more special point of view in Chapter VIII *post.*

[2] In an Essay supplementing his Preface of 1815.

Such are some instances of the religious apprehension and construction of fact. The central conviction is as to God, and man's condition and relationship to him. It may mould to its demands, if not to its own form and nature, the host of subsidiary facts, even the whole world. It has worked creatively with all races and tribes of men. It varies with their mentality or character.[1] Its value is in giving happiness or content or freedom from anxiety, to its votaries, and in bettering their conduct toward others. Its *validity* is in the strength of its intuition of the divine, and then in the response of other parts of the votary's nature and experience. Do his perceptions, his reason, his estimate of the ways and issue of life, confirm or refute it? But the religious intuition has its own validity as a human mode of apprehending fact. The person experiencing it, as well as others, will judge it according to their education and temperamental interests. But if the man's reason, understanding and cumulative experience confirm the conviction, as it were through the judgment of his whole nature, it becomes the best and surest verity that he can reach.

[1] Progress toward monotheism may depend on a people's faculty of generalization. Where this fails, though a supreme god be recognized, a host of subsidiary gods are needed to minister to the votary's needs. As an old Ashanti priest replied: "We in Ashanti dare not worship the Sky-god alone, or the Earth-goddess alone, or any one spirit. We have to protect ourselves against, and use what we can, the spirits of all things in the sky and upon earth." R. S. Rattray, *Ashanti* (1923).

THE RELIGIOUS APPREHENSION

One age differs from another in culture, education and in the character or emphasis of its intellectual and emotional interests. Each age, and every man, is most deeply impressed and correspondingly convinced by what absorbs or chiefly interests him. Everyone tends to make, out of his own best values and certainties, a criterion for the value and verity of other facts. In the twelfth and thirteenth centuries the power of the Christian faith and the absorbing interest in the rational and systematic presentation of it (the scholastic theology) colored and moulded to the standards of their values and validities the values and validities of the rest of life. Faith and theology presented facts which were surest and most important for men; the facts pertaining to the other provinces of life had to conform to the facts of this religious faith and its rationalization. The present time has other tendencies and intellectual absorptions. It will not bring its practical and industrial interests and its scientific procedures to the bar of Faith and theology. Their facts no longer hold mens' minds. The emphasis has moved from faith and theology, and so the power of religious or theological fact to assert itself as fact has waned.

CHAPTER IV

ART

THE APPREHENSION OF FACT THROUGH THE IMPULSE TO EXPRESS ONESELF

Without attempting to define either magic or religion in the two previous chapters, I viewed them as manifestations of phases of human nature. Neither shall I treat art as definable. I am thinking of poetry, music, sculpture, painting and architecture which are called the fine arts — the fine arts of human expression, which necessarily is self-expression. Their history shows with what different purposes they move and how manifold are their activities, and we need not entertain any strictly limited idea of their provinces, their functions, or their nature. I am not going to discuss the nature of art, but only its means and method of apprehending fact, and then the character of the fact apprehended and expressed.

Every fact is part and parcel of its apprehension, whatever be the outer cause or original or prototype. From the instant of our direct quasi-reflex reactions, which join us with our environment, the fact becomes, or rather *is*, part of the appre-

hender's nature, and an exponent of it. The so-called fact is interwoven with the psychic activity which is apprehending it and proceeding further to understand or classify it; in so doing, the mind is constructing and creating.

Such seemed evidently the case with the facts of magic belonging to what I called the primitive strain; it was just as evident with religion. And the same is true of the human activities manifesting themselves in works of art. Fact in art is part of whatever the artist's psycho-bodily faculties apprehend and then construct or re-construct and bring to manifestation in the concrete creation of his mind, or mind and eye and hand. The general analogy between such a fact and the facts of magic and religion is obvious.

There may be more definite similarities. Just as the religious apprehension of fact seems primarily intuitive, but to be almost at once shaped by reason and further experience, so the first perception of the facts of poetry or the figurative arts seems to be an intuition. At all events the flash of pleasure felt by an auditor or beholder is intuitive. It is universally recognized that imagination works creatively in the arts, even when this is denied with reference to religion. All human faculty may work together in the creation of a work of art, — temperament, mood, feeling, fancy and imagination, as well as the intelligence. Nor could one safely say that one phase of faculty,

rather than another, is dominant in their coöperation, though their degrees of activity may vary.

That art may work in the aid or furtherance of religion is a story as old and universal as man. Obviously the substance or subjects of works of art may be religious. A more essential likeness between the facts of art and religion inheres in their symbolical character. In art, to be a symbol is the very function of the concrete instance. And the universal use of symbols in religion has already been referred to.

Obviously the psycho-bodily conduct of human beings responds to some psycho-bodily state, which ordinarily is occasioned by an outer fact or situation. In all action that is intentional or purposive, or even impulsive, there is present some grasp or apprehension of fact. The making of any work of art is based on a conception of fact, or upon creations of the imagination taken as facts.[1] As a means of expression the work of art is intended to convey and present such a conception or conviction. Expression itself involves or springs from the apprehension of a fact.

Whatever you do, whatever you think, whatever you feel, it is always you that are acting or

[1] An extreme instance would be prose fiction, say a novel of Balzac. The author gives as occurrences much that never actually took place. But they are made into instances of general principles or laws which, for him, are facts. He may construct his story so as to present such general truth with fewer intruding irrelevances than the mottled field of actual happenings had offered to his view.

suffering. Your feeling, your thought, your action is necessarily characteristic or expressive of yourself. Since human faculties function very fully in a work of art, the work will be characteristic or expressive of the poet or artist, indeed may be the means and vehicle of his most complete expression or self-expression, if one prefers the more assertive term. Let me be more explicit.

The psycho-bodily apprehension or grasp of any fact brings an impulse to act. The action which one is inclined or feels impelled to take carries out and completes the psychic grasp of the fact in question. As the conception of a statue dawns upon a sculptor, he feels an impulse to model the same and thus bring his conception to definitude and completion. The actual process of modelling the statue will carry out and realize the conception which he is seeking to express. His thought and apprehension of fact are completed through his actual, even manual, activity in bringing the work to tangible and visible form, and the impulse to express himself is realized in the endeavor to bring to actuality the conception of a visible and bodily form emerging in his mind.

The impulse to express oneself is not a specific faculty. The nature of every faculty is to function, either continuously or upon extraneous stimulus. So of the organism as a whole: its nature is to function. The action of any bodily

part is physiological, and to speak of it as expression would rather force a term more properly applicable to the action of those faculties whose office is to form conceptions — very likely out of perceptions of fact. But the conception also, although formative and defining, is a conception of fact; and the fact which is thus given form reflects the action of some phase of mental faculty, *i.e.*, is an expression of it. The more inclusive or manifold the mental activity, the more expressive of the whole man will be the conception.

An artist's creative activity is inspired by an impulse to express himself. This continues as a moving energy throughout the composition of the poem or the modelling of the statue, even as it had more dumbly moved the dawning apprehension which at last is bodied forth in clear and pleasing form. The entire process or activity exemplifies the apprehension and construction of fact through the artist's endeavor to express himself. The process, moreover, from its inception to the end usually is accompanied and aided by language, by words either sounding in the artist's mind or impulsively uttered, or purposely spoken to others, his assistants for example. Even with sculptor or painter, whose medium is clay or pigment, words define and express his thinking and attend the bringing of his conception to realization. If words are not involved in the apprehension of any fact, they are a means to its final

clarification, or expression as one would say with reference to a work of art. Words are part of the process of thinking, or at least of the finished thought, as well as the common means of communicating or expressing it. As associates of thought they enter into the establishment of all human values and verities.

Turning from sculpture and painting to poetry, the cogent efficiency of words becomes complete. Language is the medium of poetry; the final realization and expression of the poet's inspiration will be in words. But all the time, from the first dawning of his thought to its final expression in a lyric or a drama, words have been the interwoven and indispensable means of his endeavor to express himself in the poem which he is composing. Nay, be it said more positively, words have been from first to last the inworking and necessary means of the apprehension and construction of the fact — the mood, dramatic situation, or epic sequence — of which the poem shall be the final embodiment and expression.

So the potent impulse toward self-expression and the necessary use of words mould the fact which is brought to realization or expression in a work of art. That which presses to expression, say in the poet's mind, corresponds with the conceptions and impulses or ideals of his nature and education. It consists in an apprehension of fact calling for clearer form and constructive

elaboration in words.[1] The conceived or apprehended facts would involve or include convictions as to right and wrong or fate or retribution, or whatever principles impressed the poet in common or not in common with other men of his epoch. Conscious of these *generalia* he brings to a definite pattern of expression some mood of his own or a situation or sequence of events affecting him. His lyric will have its pattern of feeling and setting, his drama will have its syncopated plot, his epic its more copious order. The genius of the poet is stamped upon the perfected concrete whole. As finally formed and expressed, his facts are the constructions of his mind.

Conversely one may say that the poet sees the principles of life in the striking instance which he will transform into a fit and beautiful and appealing exemplification of them. Derived from age-long experience, these principles set forth the consequences of human conduct, good or bad. They may carry conceptions of fate. An incident in a human life, or an instance of the power of circumstance shown in a situation, may exemplify their pertinence, their energy of self-maintenance, their validity or truth.

The concrete instance in its constructed plot or pattern and the universal principles exemplified compose the fact manifested in a work of art. They are distinguishable only in analytic thought.

[1] I am thinking of the more sincere and serious phases of poetry.

Their union makes the fact for the artist, and for those who read his poem or see his statue. They are combined and amalgamated in the work, wherein the embodied fact is neither the concrete by itself nor the universal by itself, but the two in one.

As in the Achilles of the *Iliad*. For the bard or bards who composed the epic, the fact which was Achilles was this very actual hero, the wrath and sorrow instanced in his life, and the human mortality made poignant in his impending death. All this is presented in a certain style and pattern expressive of the genius of the poet and the character of epic narrative. Analogously, through another medium, the "Theseus" of the west pediment of the Parthenon is a concrete instance of heroic qualities manifested in the recumbent form of a demigod and expressed through the style and pattern of the figure. Comparable with it is the awakening man in Michelangelo's "Creation of Adam," wherein qualities of universal manhood, soul and body, come to expectant life. With such examples why not compare Shakespeare's Hotspur, or his Macbeth or his Portia or his Prospero, or any of his characters? In these creations the truth or validity consists in the justice or naturalness or inevitability with which general principles are manifested in the concrete work. The effectiveness hangs upon the mode and pattern of the composition.

The *dramatis persona*, or the event which is rendered, may have been a once actually living person or a historical occurrence. Yet the "historicity" of a character or event is not essential to artistic truth.[1] I would instance the basal apprehended facts brought to poetic actuality in Milton's quasi-historic epic.

The first lines of *Paradise Lost* give the subject of the poem in accepted epic fashion:

> Of Man's first disobedience and the fruit
> Of that forbidden tree, whose mortal taste
> Brought death into the world and all our woe . . .

The union of the concrete instance and the general principle shows in the portentous words "first disobedience," which outline or suggest the whole Hebraic theology of Milton. The concrete instance was the eating of the forbidden fruit; the general principle was that of disobedience. The commands of the Almighty constitute righteousness; disobedience is sin; punishment follows. Such are the principles which apply to human conduct, and ordain the result in misery or bliss. Milton accepted them as truths, as did the Christian generations before and after him. They applied to Adam and his descendants, and, in Milton's mind, had already been exemplified in the rebellion of Satan and his host:

[1] I will not repeat what I have said of the *truth* of art in the chapter on Poetry in my *Human Values and Verities*.

Him the almighty Power
Hurl'd headlong flaming from th' ethereal sky,
With hideous ruin and combustion, down
To bottomless perdition, there to dwell
In adamantine chains and penal fire,
Who durst defy th' Omnipotent to arms.

Satan's sin was pride and overweening ambition, rising to defiance of the Supreme — general principles of evil manifested in the battle which shook heaven. After the Satanic catastrophe, these principles manifest themselves in the plot to seduce God's last creation, Man, to disobedience and ruin. The whole poem is the concrete instance or exemplification of righteousness and sin, in the words and acts of God and his Son, of the good and evil angels, and of Adam and Eve. It presented the poetic fact grasped and expressed by its author. The power or the beauty of the poem is in the words and deeds of its characters reacting to situations.[1]

Quite analogous is the fact grasped and set forth by Aeschylus in the *Agamemnon*. Crime breeds further crime and final ruin. This sure and relentless law of Zeus is made incarnate in the acts and fortunes of the House of Atreus, which culminate in Agamemnon's murder and the

[1] Beauty is an activity in the artist's mind. Through the poem or statue, it becomes an active apprehension and construction of fact in the mind of hearer or beholder. The degree of beauty corresponds to the efficiency of the activity, and may be conceived as power.

vengeance of Orestes. Aeschylus's fact is the union of the general and concrete rendered in his tragedy. His characters, like Milton's, were historic personages. Had they been wholly fictitious, they would none the less have presented fact.

Wordsworth's facts, assumed or more fully stated in his poems, are akin to the loftier kinds of religious fact. They are not easy to grasp, and have been taken variously by his readers. Naturally the expression of them in his poetry has no such palpable or surface consistency as might be looked for in more analytic kinds of composition. One should beware of reducing what were basal facts for this great poet to the measure of one's own systematizing understanding. Nevertheless, cautiously and doubtingly, I venture a little on this path. As they seem to me, the facts or data or convictions underlying Wordsworth's poetic apprehension of Man and Nature and Human Life are somewhat as follows:

There is first and finally and always the human mind — its innate character, its susceptibilities, potentialities, its recipient and creative faculty. Likewise always there is "Nature and her overflowing soul," and the varying affinities between Nature and the mind. There is the effect of Nature on the mind, primarily through the senses; and then comes the mind's stimulated as well as spontaneous growth, constantly affected by the presence of Nature and its own successive ways

of feeling her influence. Through experience and sympathy the mind may reach a loving understanding of fellow-minds and a sense of "the still, sad music of humanity."

In all these modes of the mind's growth, feeling and intuition have chief part with the imagination, which is their crown and culmination. There may come the joyful and peace-giving realization of Nature, of immortality, infinity and God. Along with these universal facts and fruitful verities, there is an endless procession of concrete appearances, forms and events, filling the visible world and the lives of men and women.

Wordsworth wrote a supremely thoughtful fragment, which in his preface to the *Excursion* he declared might serve "as a kind of *Prospectus* of the design and scope of the whole poem," meaning the *Recluse*, of which the *Excursion* remained the only completed part. Beginning with the line

"On Man, on Nature, and on Human Life,"

it sets forth much of Wordsworth's philosophy of the Mind acting and receiving and creating in her realm of universal Nature. This Fragment naturally does not present its thought in the order of my outline of Wordsworthian fact. But the mind of man is shown as a recipient and creative essence, a mystery of mysteries, and incidentally as Wordsworth's chief theme:

Not chaos, not
The darkest pit of lowest Erebus,
Nor aught of blinder vacancy, scooped out
By help of dreams, can breed such fear and awe
As fall upon us often when we look
Into our Minds, into the Mind of Man, —
My haunt, and the main region of my song.

The poet passes to the creations of the Mind united with Nature. Why should Paradise and the Elysian groves be but —

A history only of departed things,
Or a mere fiction of what never was?
For the discerning intellect of Man,
When wedded to this goodly universe
In love and holy passion, shall find these
A simple produce of the common day.
I, long before the blissful day arrives,
Would chant in lonely peace, the spousal verse
Of this great consummation: — and, by words
Which speak of nothing more than what we are
Would I arouse the sensual from their sleep
Of death . . . while my voice proclaims
How exquisitely the individual Mind
(And the progressive powers perhaps no less
Of the whole species) to the external World
Is fitted: — and how exquisitely too . . .
The external World is fitted to the Mind;
And the creation (by no lower name
Can it be called) which they with blended might
Accomplish: — this is our high argument.

Packed with Wordsworth's philosophy, these lines disclose their full meaning only on repeated reading. The mighty spousal of the mind with nature, and the high creation issuing, make his theme. The Fragment also indicates the poet's ancillary need, — or the theme's requirement for its full expansion —

> . . . to travel near the tribes
> And fellowships of men, and see ill sights
> Of madding passions . . .

hear the solitary anguish of humanity or

> . . . hang
> Brooding above the fierce confederate storm
> Of sorrow, barricadoed evermore
> Within the walls of cities, — may these sounds
> Have their authentic comment.[1]

These few pages may fail to carry effectively my notion of fact in the domain of art. Fashioned in and through its apprehension, every fact is in some way characteristic of the mind or body-mind apprehending it. Still more completely

[1] This Fragment's pregnant suggestiveness might be supplemented by extracts from the *Prelude*. In the enlightening edition by Ernest de Selincourt (Oxford, 1926) the text of the poem as published in 1850 is page by page set opposite the text as finished by Wordsworth in 1805. To illustrate what I have said, I would refer in the following order to lines XI, 271–273 (1805); VIII, 624 sqq. (1805); XII (XIII) I; II, 371–466 (1805); I, 351–371 (1805); II, 234–265 (1850); VIII, 481 (1805); III, 88–169 (compare the two texts); VIII, 389 sqq. (1805); VIII, 256 sqq. (1850); VIII, 665–675 (1850 text, 823–835 in 1805 text); VIII, 859–869 (1805) (XII) XIII, 279–299 (either text); XIV, 188–231, (1850). Compare "Lines composed above Tintern Abbey."

every conception formed by the mind is characteristic or expressive of that mind. Many sides of an artist's nature unite in the effort to express what cannot but be himself. And the effort toward self-expression is the chief agency in the apprehension and final construction of the fact presented by a work of art.

CHAPTER V

STUBBORN FACT AND THE ACTIVE LIFE

In spite of Bishop Berkeley and all idealists, men are compelled to recognize the cogent impacts of an outer world upon their bodies or body-minds. The peremptory world excites reflex and impulsive actions in all animals, including men. It occasions also, in men at least, responsive acts which cannot be called either instinctive or reflex, since they are somehow consciously intended. Yet they appear to respond directly to the pressure or suggestion of environment, and to be as yet unfashioned by the imagination creating as wish suggests.

These responses, — reflex, impulsive, or consciously directed — make the basis of the practical conduct of mankind. The first two kinds of response implicitly, and the third explicitly or consciously, have as an end some phase of the actor's welfare — his bodily welfare usually, but often with some reference to his mental state. So far as a wish to know accompanies such acts, it is a wish to know the palpable fact or situation and seize the import of the sensible and pressing actual-

ity. It is a wish to see directly. If the man is conscious of the intrusion of fancy and the remouldings of desire, he tries to bar their entry. He would also reject symbolical interpretations.

Such recognition of what men fondly call stubborn facts underlies every mode of living in the world, whatever further convictions may thrust themselves upon these simplest factors of experience. If they are fundamental elements of all domestic and social life, affairs, politics, war, so are they fundamental to the methodical observation and testing of fact, which is called science; and, in more recedent modes, they underlie ultimate rational consideration. Through indirect suggestion, they may make for religion, but are apt to prove rather stiff material for religious symbolism. Whether they enter the thought and sentiment expressed in poetry and the figurative arts may depend on whether the creative expression in any given instance springs from a direct form-giving apprehension of the obvious and tangible, or has passed on, by means of the imagination, into generalized or symbolical construction.

It is interesting to observe how these "stubborn" facts of the compelling natures of things are built out and altered, supplemented or supplanted, in the impulsive, passionate or multifariously constructed modes of accepting fact which form the experience of people involved in the active

life of society and affairs, as all of us are to some extent. Since the practical life appears related to the impact, and to spring from the direct perception, of the world of obvious and pressing fact, one might suppose it to carry on through a constant appreciation of the import and bearing of such actuality. But direct impressions do not exclude other human activities. The whole man is there from the beginning, in the primitive savage and in the child of civilized parents; and anger, fear and fancy, desire with its quick imagination, enter all impressions of the outer world. The mind, from its first experience to its last, is incapable of limpid and undistorted apprehension of phenomena. It gives as much as it takes. Human perceptions are rich, colored, living, part of the intellect, temper, impulse — the whole nature — of the percipient. Exceedingly mottled is the foundation of the active life. Manifold and multifarious are the apprehensions of fact and unanalyzed convictions which support the careers of men and women. Disparate and heterogeneous are the elements which somehow are brought together into a dissonant unison and limping coöperation within the *omnium gatherum* of a life: — sense-perceptions, conscious or rational faculty adjusting them and discriminating as to their validity; then passions and desires, deceitfully constructive; the loves, the hates, the personal vanities; self-esteem storing up and magni-

fying whatever makes part of self; while unceasingly goes on the mutually-qualifying working together of the faculties, the general unifying action of the total individual, which makes him himself and will keep him effectively the same individual to the end.

The apprehension and construction of facts reflect the qualities of the man, and will be moulded by the character of his previous experience. As between individuals, differences become more pronounced as action upon the apprehended fact is called for. Men differ in their first perception of a fact; further differences arise as each man proceeds to adjust the fact with his previous experience; and widely will men draw apart in their action and final understanding of the fact which they have thus made part of themselves. Such differences rise between members of the same community, and will be more conspicuous as between different peoples and ages.

Having apprehended or imagined or created what is to him a fact, the man next distinguishes and strengthens it. He will range the new perception with some kind of previous ideas or experience. Noticing common elements, he may overlook or disregard points of difference. This is the process of abstraction or generalization. He may also find a representative or symbolical character in the fact perceived or imagined. So he uses it as a symbol. Again, he forms hypotheses out

of the fact or bearing upon it. Through them the abstracting or generalizing process may be carried further, or the symbolism of the fact extended. Symbolism is one kind of generalization.

Such are some of the processes of adjustment, through which the perception or apprehension of what appears to him a fact becomes part of the man's mentality or experiential stock in trade. In still other ways the apprehended fact is rendered definite and emphasized or made into a stronger conviction; for example by expressing or formulating the so-called fact. Through oral or written expression the fact is brought to definite presentation. The man who sets it forth will tend to persuade himself of its actuality or value. So he strengthens his conviction that it is a fact. Action also may fortify conviction. An apprehended fact, when acted on, becomes assured and gains the pragmatic energy of conduct; or action may, on the other hand, show the falsity of the apprehended fact and nullify any conviction arising from it. Finally, thinking upon a fact and endeavoring to rationalize it may transform it into another sort of fact. For the processes of rational adjustment are not those of the fact's first apprehension or perception. Bringing the intellect to bear upon an intuitional or emotional acceptance may result either in discarding or transforming it.

Is one man's perception of an outer fact and consequent ordering of it less distorted than another's because his passions are slower, his reactions less violent, his temper more even? A criterion is hard to find. Any phase of human faculty may reach pragmatic truth. There is validity in one's loves and detestations. Yet it is commonly supposed that some people are more intelligent than others and form sounder judgments. Their perceptions are keener, their minds more vigorous. There are also exceptionally gifted men whose conduct is erratic and whose judgment of affairs inspires little confidence. Their notable qualities may be absorbed in art or science, and cannot be brought together upon the practical point. The last supposition suggests *per contra* a practically balanced person, whose judgment will represent a fuller concurrence of his faculties and a more justly proportioned conduct, which will be apt to promote his stable welfare and that of the society in which his welfare is bound up.

The balanced coöperation of human faculty called for in affairs is by no means met and satisfied by the circumstance that all sides of a man's nature tug at his primary impressions of things and push in and fashion them. The impulses and passions of the active life are more likely to draw men one way and another, and prevent catholic action. Forethought, intelligent percep-

tion, the reasoning mind are all required for wary stepping in the maze of human affairs. These qualities should exercise control working in unison, and with a steadfastness and constancy resting in strength of character. But character is the synthesis or balanced sum of the man's impulses and intents. Will, resolution, conscience are phases of it. Whatever name it bear, it is strong and steadfast only in that man whose impulses and passions hold themselves controlled through a working unison with the perceptive and reasoning faculties. Such a man acts and lives at one with himself, and not in continual dissonance and conflict. He manifests the veritable organic power of self-regulation — the ability of the entire human organism to maintain an harmoniously functioning unity of self.

If these statements are more than words, they touch us all. Whatever our vocation, we have a practical life and are netted in its ways of apprehending and constructing fact. We would have a sound grasp of things and wish to act sensibly in our affairs, whatever they may be; but often with ridiculous results. We take information from others and are exposed to the contagion of the opinions about us. Most of us fail to realize how almost inevitably members of the same social, economic or political group perceive the same things and think alike about them. Any occurrence may rouse a wave of common feeling. The

response and emotional re-expression among those affected bring a tumult of agreement as to what has happened or threatens to take place. So common psychic processes reshape and reinforce the opinions of each individual, as they take form under the effect of cumulative class feeling and group reasoning, — the latter led to its conclusions through feeling and desire. *De te fabula.* We are all in the same boat. As it rocks under us, we can steady ourselves only by constancy of character and purpose.

CHAPTER VI

SCIENCE AND PHILOSOPHY

One may again recall the general principle which is fundamental to this little book: that in every field of human thought and life, fact will be whatever the mental or psycho-bodily processes of apprehension and coördination accept and co-ordinate or reconstruct as fact. In resting on a human basis the facts of the primitive strain and those of religion and art are akin to the facts of science and philosophy, which also result from phases of human faculty apprehending and functioning. To be sure, the facts of religion and art have neither the same sanction nor the same manner of life as those of science and philosophy. Yet every fact, however apprehended, is set in human nature and moulded by many phases of human faculty. No observed or experimental fact of science is ever sheer and naked. For it is at once understood in some way, interpreted, and coördinated with the observer's other experiences. It will be clothed by his thoughts, touched by his emotions, and probably adjusted to his theories. In philosophy fact is mainly a creature of reason

and hypothesis, yet may hold intuitional elements as well.

But beyond general relationships, the facts of science and philosophy have a kinship of their own. Scientist and philosopher desire knowledge. Both seek facts which explain. With them a fact is not only valued but is also tested by its explanatory character, its fitness to cast light upon matters which are, or can be, related to it. In their essential end of pregnant disclosure and enlightenment, the facts of science or philosophy differ from the facts of magic, religion, art or the practical life, since these do not have knowledge as an end, but some other satisfaction or element of human welfare.

The kinship of science and philosophy is more fundamental than the differences between them in method and immediate aim — science investigating directly and restricting its view to palpable data, philosophy rational rather than observing, and aiming at the furthest possible understanding of all things. These differences are evident in the practices of scientists and philosophers, but their profounder nullification seems forecast in the present tendencies of thought. For science, having passed its ruddy innocence, and bewildered by recent experiences, is ready to subject its concepts and methods to rational criticism, while philosophy is recognizing the data of science as the field of application for philosophic principles. In some

provinces of inquiry their coöperation is obviously needed. Sociology and anthropology have to consider human conduct, which may be approached in such different ways. And in spite of laboratories, many of us still believe that psychology includes the investigation of thought, which is the means of all investigation. No psychological inquiry or any investigation of human conduct can long be kept away from the problem how and by what means and sanction of authority do we presume to investigate and know anything. Indeed one may doubt whether any mathematico-physical or biological research can permanently avoid the ultimate rational consideration which is philosophy.

The affinity between science and philosophy may be illustrated by reviewing their conceptions of substance. Early Greek thought, whether philosophic or crudely scientific, conceived a huge fact or substance underlying the world of facts seen and felt. From Thales to Aristotle the Greek mind clung to some form of this conception. Only the heretic Heracleitus declared that *flux* is the ultimate fact. The atoms of Democritus were as substantial as the *being* of Parmenides, though they had motion. Inferences from observation contributed to make his atoms scientific as well as philosophic.

On the whole, in proving some form of substance to be a fact, Greek philosophers used reasoning

rather than observation. They found truth in the insistencies of their mental processes — the imperatives of reason. Plato could see the apparent facts, or phenomena of the visible world. But the needs of his mind, with partiality for mathematics, controlled. His thinking, his ordering of facts, his conception or creation of causative facts, moulded the facts of observation to the compulsions of his thought. Logical and temperamental constructions became for him the surest truths. His thinking, his conceptions, his *ideas* became the most absolute facts.

Aristotle carried on or altered the intellectually or ideally constructed facts of his master. One recalls his four causes, entering the generation or existence and cognition of anything — the material, efficient, formal, final. These were facts causal or constitutive. But being-as-such in its fundamental mode of substance (*οὐσία*) is the central topic of his *Metaphysics*. Always himself, he did not cease to think rationally and ultimately when he turned from being-as-such to study those parts of it manifested in the heavens or upon the earth. He saw as in one group all intellectual pursuits whose end is rational knowledge for its own sake. Along with metaphysics and mathematics he included physics, the study of things subject to movement and change whether animate or inanimate, terrestrial or in the heaven. Such things likewise are objects of ultimate rational

consideration or metaphysics. Although the study of animals required other methods, his conception of being and the four causes remained fundamental.

The close relationship between science and philosophy appears throughout the subsequent history of the conception of 'substance,' which long continued fundamental with both of them. It underlies the science of Galileo and Newton and the philosophy of Descartes and Spinoza. If somewhat equivocated in the thought of Locke and Hume, it is still embedded in the philosophy of Kant. Only as the nineteenth century was passing into the twentieth did it undergo a parallel transformation; for in both science and philosophy the idea of stable unchanging substance abdicated in favor of dynamic process.

Physics and mathematics led in forming the new conceptions which are so familiar and so little understood; and these in turn helped bring about the view that all apprehended fact depends on the situation of the observer as well as upon his psycho-bodily activities. An important factor has been the application of the principle of relativity not merely to knowledge itself, which is relative to the thinker, but to the things which are known or thought about, recognizing that they are one and all relative to their respective environments. Preparation for this lay in the theory of evolution which two or three generations ago demolished

stable species and lately has taken on a saltatory attribute or accident called emergence. No one knows what novelties of conduct science may yet discern in nature.

Fact for science is that which is disclosed to observation and tested and confirmed by thought applied to the matter in hand. A further aim is systematized knowledge leading to general descriptions. To this end, whatever is perceived or directly inferred, as well as what is reached through calculation, must be arranged and coördinated. But coördination is a form of rationalization and partakes of the endeavor of philosophy to reach satisfactory facts through rational consideration. Mathematics is a tool of science, and as a form of logic may also make part of philosophy.

Most scientists occupy themselves with special investigations and many teachers of philosophy are enclosed in academic discussions. But some thoughtful men, scientists for the most part, realize the inadequacy, and suspect the consistency, of scientific statement. Feeling a need to analyze concepts and reconsider procedure, they are ready to welcome the aid of philosophy to make the data of science rationally acceptable. Beyond this, certain novel mathematical formulations of physical fact appear so impossible mechanically and are so refractory to observation, that science itself is driven to speculation.

As long as the scientist did not doubt the validity of his method and was convinced of the singleness and certainty of what he thought he had observed, he felt no need of the broader rational consideration which is philosophy. Indeed in the early period of scientific revival such leaders as Leonardo and Vesalius were part of the revolt from the reasoning of scholasticism as well as from its deference to authority. Vesalius was absorbed in the study of human bones and the dissection of human bodies which gave him facts often differing from the statements of Galen. He had no doubt as to his method or his discovered facts. His observations were his standard of truth. Later, in another field, Newton doubted the absolute certainty of the facts of observation, but he had no more doubt than Galileo of the certainty of mathematical demonstrations. Such assurance either as to observed facts or mathematical demonstrations lasted well into the nineteenth century. A sense of secure content in one or the other, or in both, of these assurances, permeates Whewell's stately *History of the Inductive Sciences,* dedicated to Sir John Hershell and published in 1837. Its composition was not troubled by any doubt as to the certainty or potential adequacy of scientific fact. Astronomy, as in antiquity, was still the leading science. "Descend from heaven, Urania," quotes Dr. Whewell, as he opens his seventh book with the following words: "We have now to con-

template the last and most splendid period of the progress of astronomy, the grand completion of the history of the most ancient and prosperous province of human knowledge; . . . the first great example of a wide complex assemblage of phenomena indubitably traced to their single, simple cause; in short, the first example of the formation of a perfect inductive science."

His eighth book is given to "The Secondary Mechanical Sciences," such as acoustics and optics. He terms them "secondary" because their "facts do not present themselves as modifications of position and motion, but as *secondary qualities*, which are found to be in some way derived from those primary attributes." He is not attempting a full statement of all additions to the sciences, "but to present a view of the progress of each of those branches of knowledge *as a speculative science;* — to point out the epochs of the discovery of those general principles which reduce many facts to one fact."

To the present generation of physicists Whewell's book seems to belong to an Age of Innocence. Some decades later, in 1861, J. B. Stallo, a German-American, published his *Concepts and Theories of Modern Physics.* As a trenchant criticism of current conceptions, it does not belong to the Age of Innocence. For Stallo "the prevailing misconceptions in regard to the true logical and psychological premises of science are prolific

of errors." And he speaks of "The utter anarchy which notoriously prevails in the discussion of ultimate scientific questions." His introductory chapter opens thus: "Modern physical science aims at a mechanical interpretation of all the phenomena of the universe [including those of organic life]. It seeks to explain these phenomena by reducing them to the elements of mass and motion and exhibiting their diversities and changes as mere variations in the distribution and aggregates of ultimate and invariable bodies or particles in space."

But, says Stallo, "The reality of all things which are, or can be, the objects of cognition, is founded upon, or rather consists in, their mutual relations. A thing in and by itself can be neither apprehended nor conceived. . . . There is no absolute material quality, no absolute material substance . . ., no absolute physical constant, no absolute standard either of quantity or quality, no absolute motion, no absolute rest, no absolute time, no absolute space." A pregnant and prophetic paragraph.

The Grammar of Science, by Karl Pearson, was published in 1892. It has one leg in the Age of Innocence, while the other is vigorously withdrawn. An important office of science, emphasizes Mr. Pearson, is to produce intelligent citizens, whose judgment may be "free from personal bias. . . . It is obvious" that "such a judg-

ment can only be based on a clear knowledge of facts, an appreciation of their sequence and relative significance. The facts once classified, once understood, the judgment based upon them ought to be independent of the individual mind which examines them. . . . The classification of facts and the formation of absolute judgments upon the basis of this classification . . . is peculiarly the *scope and method of modern science.* . . . The unity of all science consists alone in its method, not in its material" (p. 15).

Science has not solved every problem yet. But, says Mr. Pearson, "Wherever there is the slightest possibility of the human mind to know, *there* is a legitimate problem of science. Outside the field of actual knowledge, can only lie a region of the vaguest opinion and imagination, to which unfortunately men, but still with decreasing prevalence, pay higher respect then to knowledge. . . . If the ignorance of science really arises from the inadequacy of the scientific method, then we may be quite sure that no other method whatsoever will reach the truth. The ignorance of science means the enforced ignorance of mankind" (p. 25).

These remarks belong to the Age of Innocence. But, further on, the author seems to have emerged and to have entered the broader if less assured region where our scientists at present dwell. The following phrases have another sound: "Science is in reality a classification of analyses of the con-

tents of the mind. . . . In truth, the field of science is much more consciousness, than an outer world. . . . In order that a conception may have scientific validity, it must be self-consistent and deducible from the perceptions of the normal human being" (p. 63, 64). "A scientific law . . . is the résumé or brief expression of the relationships and sequences of certain groups of these perceptions and conceptions, and exists only when formulated by man" (p. 98).

The age of scientific innocence is past. It is not merely that the limitless range of our ignorance is realized, which was known before, if more narrowly. Doubt companions the thoughtful scientist along the path of his investigations and lurks behind his discoveries. He suspects the adequacy of scientific fact, even of all postulational and experimental science. A need is felt of surer basic principles and a consistent and impregnable procedure.

Observation has long been recognized as fallible, and Newton pointed out that the certainty of a science cannot exceed the certainty of its data. There may be errors even in that purposefully directed and artfully limited observation which constitutes experiment. The most careful "control," or the *contre-épreuve* discussed by Claude Bernard seventy years ago, may not exclude them. There is also danger in restricting the attention either to one form of observation or one category of data, a danger exemplified by Newtonian physics.

Moreover, there can never be any sheer and simple, self-limited observation. For the first impression, the initial movement of apprehension, passes on at once into further processes of interpretation, coördination, construction. Many chances of error lie in the process of reasoning from the data. No form of induction is quite safe, and the broader the inferences the greater likelihood of trouble. Applied mathematics has lost its Euclidean certainty. There is no guarantee of correspondence with actuality in a procedure that starts from axioms, postulates, even attitudes, which must be granted. No assurance can be found in this "granted" quality of axioms, definitions, or entities. The nineteenth century did not doubt that an order of events holds throughout the physical world, whereby their sequences may be confidently studied, their past inferred and their future predicted. This belief has been the first dogma of the scientific faith. In so far as connected with ultimate rational conviction it is part of philosophy as well. But today the acceptance of this dogma wavers.

The postulates and entities of physics and mathematics carry over and form a submerged base for biology. But with the tottering of the ancient pillars — solid matter, stable mass, absolute space and time, gravitation, Euclid's axioms and definitions — the physical basis of biology is shaken, and biology has worries of its own.

Chemistry and mechanics cannot yet gage the ways of living organisms, and there is doubt as to "le déterminism des phénomènes, qui est absolu aussi bien dans les phénomènes dés corps vivants que dans les corps bruts" (Claude Bernard).

The evolution of organisms is accepted by biologists. It is unthinkable that the countless species of plants and animals shown by the geologic record should have been specially created. The alternative is some sort of evolution. How it has taken place, or is still going on, is not known. Biologists accept evolution of necessity — on faith. The total experience of thoughtful theists, together with their intellectual requirements, drive them to the hypothesis of a God. They cannot do without it, and accept it on faith. So the biologist cannot do without evolution, and as he does not know the way of it, he accepts it on faith as the theist accepts God.

Such questionings of scientific foundations might occur to any thoughtful person. But latterly out of science itself doubts have arisen as to the possibility of basic scientific certainty, and limits have been put on the application of scientific fact. Physicists as well as biologists are examining scientific concepts.

Professor P. W. Bridgman of Harvard in his *Logic of Modern Physics* (1927) speaks of the growing conviction that "new orders of experience" may be expected with high velocities and cosmic

magnitudes or magnitudes exceedingly small. "The attitude of the physicist must therefore be one of pure empiricism. He recognizes no a priori principles which determine or limit the possibilities of new experience. Experience is determined only by experience" (p. 3). Physics should keep to its clearly tested experience of the outer world, and avoid abstract definitions, like Newton's absolute time. Physical concepts mean "nothing more than a set of operations." For example, the concept of length means merely the operation by which it is determined. "The concept is synonymous with the corresponding set of operations" (p. 5). The physicist must recognize as well "that all results of measurement are only approximate" (p. 33). He will view with caution the fascinations of mathematics. "There is no longer any basis for the idealization of mathematics and for the view that our imperfect knowledge of nature is responsible for failure to find in nature the precise relations of mathematics. It is the mathematics made by us which is imperfect. . . . The concepts of mathematics are inventions made by us in the attempt to describe nature" (p. 62). "Any system of equations can contain only a very small part of the actual physical situation" . . . (p. 64).

The charm of Eddington's *Nature of the Physical World* veils many a difficulty. Apparently its intriguing phrases are to be taken literally: "The

external world of physics has thus become a world of shadows." The last chapters tend to impute a validity rivalling that of science to the intuitions of religion and our esthetic sense. Eddington is as far removed from Whewell's simple acceptance as he is from Pearson's dogma that what cannot be discovered by the scientific method is unknowable to man. He seems disposed to bring to the aid of science, or to the aid of man, the methods of that logical and ultimate consideration which is philosophy. "My principal aim," he says in the preface, "has been to show that these scientific developments provide new material for the philosopher." The book leaves the impression that science gives a vision of the world which is abstract and partial and something like a dream. One draws from it the notion that the perception of facts hangs on the phases of human faculty in action, or, more generally, upon the constitution of our natures. Eddington's nature is not satisfied with "pointer readings."

A recent popular book by Sir James Jeans, *The Mysterious Universe* (1930), asserts "that all pictures which science now draws of nature, and which alone seem capable of according with observational fact, are mathematical pictures" (p. 135). He emphasizes "the general recognition that we are not yet in contact with reality," and approves "the statement that the universe appears to have been designed by a pure mathe-

matician" (p. 140). Having floundered a little in a discussion of "substantiality," which he accepts as "a purely mental concept," he advances to the formula of Bishop Berkeley that the universe has no substantial existence save in mind, and if not in "my mind, or that of any other created spirit," it must "subsist in the mind of some Eternal Spirit." It is the last clause of Berkeley's statement that he regards as acceptable; for he is willing to recognize "the universe as a world of pure thought" (apparently mathematical thought). It must have been created "at a time not infinitely remote," and if it "is a universe of thought, then its creation must have been an act of thought" (p. 154).[1] He utterly disclaims the opinion that science can possibly be heading toward any "ultimate reality of a mechanical kind" (p. 157).

Eddington and Jeans, mathematicians, physicists, astronomers, have been thus driven to speculation. Their speculation has a religious note; they seem to look for a God. These eminent men have taken part in the scientific disclosures which tend to show that nature is incomprehensible in her elements. Some of these bewilderments (beyond my competency to discuss) are connected with quantum phenomena. It may be inferred from the work of Arthur Compton that no one can both measure the velocity of an electron and at the same time fix its location, or even ascribe

[1] In this statement Jeans' logic seems to limp.

both velocity and location to it at the same time. For no physicist can ascribe meaning to qualities which he cannot in some way measure. This seems to be what Heisenburg has formulated as the "principle of indetermination." It may mean that every determination we seem to reach is accompanied by a complementary uncertainty. The physicist in his last analysis finds situations where all determining principles seem to fail—situations intrinsically indescribable, unpredictable, even unthinkable.[1]

Undoubtedly science has established its validity pragmatically. It works. Its useful discoveries are proclaimed the world over. As this practical confirmation does not remove basic uncertainties, the net result is that science is left valid in its proper sphere, the middle distances. Its further flights, on the wings of higher mathematics, have reached observational contradictions which have not as yet been unravelled. Mathematical physics, because of its strict method, is a model science. Yet its proficients deplore its inadequacy. In the biological sciences the need of a critical reconsideration of concepts and methods is admitted;[2] it is sorely needed in anthropology

[1] For a recent clear discussion see the address of P. W. Bridgman, *The recent change of attitude toward the law of cause and effect.*—Science for May 22, 1931.

[2] See their elaborate criticism in J. H. Woodger's *Biological Principles* (1929); also *The Interpretation of Development and Heredity*, E. S. Russell (1930).

and sociology.[1] One can hardly escape the general conclusion that science needs the aid of another mode of thinking.

Philosophy as ultimate rational consideration is by its nature patterned differently from science. "The method of philosophy is one stage further removed from the direct data of observation. It is a logical method, more sheerly and detachedly rational and belonging to the inner mind. Philosophy is more introspective than science, which is always adducing outer data, while philosophy clings to logical necessities. Thus it criticizes scientific results from another point of view." [2]

Consideration carried to the limits of rational and universal thinking, tends to draw its inquiries to a comprehensive unity. For its own assurance, philosophy must bring all human values and validities within its scope. It can leave nothing out. Its conceptions must also stand the test of reason and at the same time correspond with the world of experience. So there is nothing that philosophy may not be obliged to consider in its search for what is fundamentally valid. Having to take account of the results of science, philosophy must satisfy itself as to scientific assumptions, methods and conclusions. Conversely, as it can disregard no criterion of its own validity, it will

[1] And abundantly afforded in Pareto's prodigious *Sociologie Générale*.

[2] *Human Values and Verities*, p. 122.

use scientific data and all other actual human experience to test its own methods and conclusions.

The facts of philosophy are the children of reason. Yet other phases of human nature throng about them seeking recognition and inclusion in the philosophic scheme. The great philosophies have not only seen that reason must bring the manifold of human experience within its consideration, but have admitted the claims of irrational ways of experiencing and apprehending fact — ways of intuition, feeling, instinct, the responses of any part of the nature of man. They have even embraced and exemplified such irrational modes of apprehension in their own procedure. Thus the processes, the constructions, the conclusions, that is to say the *facts*, of philosophy may be conceived to seek accord with the total manifold of human value and verity, and gain through this the fullest confirmation open to the mind.

Such then may be the catholicity of philosophy's acceptance or construction of fact and the corresponding range of its competency to criticize or confirm. In the past it has applied itself to the prevailing intellectual interests — theology for example — of the changing periods of history.[1] At present its most pressing task is to test the assumptions, methods and results of science. To this end it must consider scientific facts with

[1] See Chap. V, II of *Human Values and Verities.*

regard to their consistency and their relations to the further aspects of actuality needed for a reasonable and satisfactory view of the world and man. It will aim, if possible, to establish science in logical and certain truth.

It is difficult and may be impossible for one mode of apprehending and constructing fact to test a mode of another order; for example, very difficult for our reason to analyze and appraise that which comes to us through feeling and intuition. But since both science and philosophy are predominantly intellectual, no such obstacle prevents either from testing the constructions of the other.

It is evident that the observational and inductive processes of science are not the same as the more introspective reasonings of philosophy. Generally it is the direct observation or observed fact that controls in science, while the equally insistent reasoning processes dominate the conclusions of philosophy. If philosophy should pursue the method of science, it would be science and not philosophy, and in that case could not view scientific constructions of fact from another angle or outside point of view. It is not to be desired that philosophy should ape the ways of science; for the two are mutually complementary, and together, or in their interactions and mutual criticisms, represent a complete scheme of intellectual inquiry.

Science is properly busy with its own affairs,

and commonly occupied in investigating the matter in hand. It may disparage or commend philosophy. It can allege that philosophy fails to take account of what science perceives as stubborn facts; or, when bogged in its own perplexities, it can look to philosophy for a further analysis and reordering of its troubles. But its own processes of apprehension and construction are not adapted to an appraisal of philosophic procedure, as they do not enter the sphere of ultimate rational consideration.

Philosophy has not, quite in the same sense as science, any business of its own. Its field is everything: the mind or body-mind and whole nature of man in his relations with the universe. Its most catholic function is to consider and criticize whatever man is doing or thinking or discovering respecting his universe and himself. Rational consideration is *par excellence* the mental process which judges other ways of apprehending and constructing fact. It does this through its generality of application and the very nature of its own mode and method of factual apprehension and construction. Only its competency is questionable when it endeavors to appraise the facts realized by feeling and intuition, as in the fields of art and religion. It may compare their results or convictions with those of more rational perception or consideration. But for an intimate appraisal of them it can only try to enter into

their ways and so appreciate, and if possible capture, their modes of functioning.

Such well-nigh insuperable difficulties do not beset the endeavor of philosophy to appraise the methods and results of science. For, as already said, the methods of both are mainly those of the consciously inquiring mind. The two understand each other. Their ways may overlap, philosophy for the nonce becoming scientific and science philosophic. To test the scientific methods and results, and with its own rational apprehensions and constructions supplement the facts of science, is today the most obvious office of philosophy. As ultimate rational consideration it must be universal; for it seeks to bring *all* apprehensions and constructions of fact to an all-embracing consistency of thought. It is through the process of this endeavor that philosophy sets itself to the task of criticizing or confirming the apprehensions and constructions of science. Is philosophy fulfilling this office? According to Professor John Dewey, so far as concerns philosophy in America, the answer is, no. For he says that because of its habits of detachment "American professional philosophy" (always excepting William James) has concerned itself with "intellectual formulations extracted from their actual setting." It has not felt the pull of present problems or recognized "the central fact that the force most active in contemporary life is growth of habits congruous

with natural science and still more with the technological application of its discoveries." It has been inquiring about the possibility and limits of knowledge without considering that answer "which the actual pursuit of knowledge would have suggested," to wit, "knowledge is possible as far as we can develop instrumentalities of inquiry, measurement, symbolization, calculations, and testing," — which is close to Bridgeman's operational view of the concepts of science. Dewey continues: "At the time when science was advancing at an unprecedented rate, philosophers were asking whether knowledge was possible. And when the answer was in the affirmative, it was justified on the basis of notions about mind, sensation or reason. The straightforward course would seem to have been an examination of the procedures by which knowledge is obtained in actual practice." [1]

Philosophy must face the facts of "existing civilization in its dominantly industrial char-

[1] Such pragmatic view of knowledge has been a corner stone of Dewey's philosophy. And he feels that "standards congenial to, arising from, the new technological and scientific trend" are "as yet unavowed and unrevealed." One reason for this confusion is "that philosophic thought has chiefly devoted itself to cultivating the older tradition instead of exploring the meaning of actual conditions and the possibilities that may inhere in them. In consequence, a nominal and formal intellectual allegiance to standards which have little relevancy to existing civilization is conjoined with practical surrender to forces we make so little effort to understand. The decline of the operative force of old standards and ideals is attended and confirmed by the withdrawal of philosophy from concern with actualities."

acter." Its business is "to bring intellectual order out of the confusion of beliefs." It has "to discover the full meaning of the experimental methods by which the advances of natural sciences have been made secure." For this "there is needed revision and even surrender of fixed prepossessions regarding the nature of mind, thought, and truth that are transmitted to us from a pre-experimental age. Ideas of these and allied subjects must be developed after the model and pattern of what competent inquirers actually *do* in the attainment of knowledge of facts and principles. The accomplishment of this task . . . signifies what is in effect a new logic in investigation and criticism of social institutions and customs. For this area, the one in which men concretely live, is hardly touched as yet by the experimental habit of mind." It is for philosophy to work out "the implications of the experimental method" in the fields of politics and law, economics and religion.[1]

Dewey's view of the present task of philosophy accords with his idea of science: "in the practice of science, knowledge is an affair of *making* sure, not of grasping antecedently given sureties. What is already known is of immense importance; inquiry could not proceed a step without it. But it is held subject to use, and is at the mercy of the

[1] The above extracts are from Professor Dewey's article on Philosophy in *Whither Mankind*, ed. by Beard (Longmans, 1928).

discoveries which it makes possible. It has to be adjusted to the latter and not the latter to it. When things are defined as instruments, their value and validity reside in what proceeds from them; consequences not antecedents supply meaning and verity. Truths already possessed may have practical or moral certainty, but logically they never lose a hypothetic quality."[1] That we learn by doing, seems to be the burden of Dewey's recent Gifford Lectures entitled *The Quest for Certainty*. Knowing has become a mode of doing, and doing a mode of knowledge. All valid thinking can be transmuted into action.[2]

Doubtless many an academic philosopher needs to be stood on his head and made to see the stars. Dewey would have philosophy conform to the ways of science. But in that case, as I have said, philosophy could not act as a critique. No one can lift himself up by his own bootstraps. Dewey seems oblivious to the dilemmas and uncertainties disclosed by physics and, incidentally, by biology. They are best known to thoughtful scientists who are driven to seek a more searching analysis and a profounder rational consideration. Compelled

[1] *Experience and Nature*, p. 154 (1925), "What is sometimes called 'applied' science, may then be more truly science than what is conventionally called pure science. For it is directly concerned with not just instrumentalities, but instrumentalities at work in effecting modifications of existence in behalf of conclusions that are reflectively preferred." Ib. p. 161.

[2] See *e.g.*, *The Quest for Certainty*, pp. 78, 173, 231, 244, 291.

thus to philosophize they do not ask philosophy to adopt the methods of science, since these are just what need philosophy's criticism. Far from adopting the methods of science when considering scientific results, philosophy criticizes, rejects or confirms through its own procedure. Proceeding through rational construction and coördination, it makes use of observation as material. Always pursuing its aim of consistent thinking, it applies its method to the apprehensions and constructions of science; and it makes its own goal of universal consistency in thought the criterion of their rejection or acceptance. It is thus that philosophy joins with science in the construction and confirmation of fact.

As an illustration of such endeavor and such ultimate aim, I have but to refer to A. N. Whitehead's *Process and Reality, an Essay in Cosmology*, which uses the data of science and pursues the method of philosophy. Thus it brings philosophy's rational constructions and coördinations of fact to bear upon the apprehensions and constructions of fact in science as well as in other fields of human interest. It proceeds on and on, prodigiously constructive, always looking to the ultimate goal of complete adequacy and consistency of thought. It is "intended to state a condensed scheme of cosmological ideas, to develop their meaning by confrontation with the various topics of experience, and finally to elabo-

rate an adequate cosmology in terms of which all particular topics find their interconnections." The method is explained in Part I. In Part II "an endeavour is made to exhibit this scheme as adequate for the interpretation of the ideas and problems which form the complex texture of civilized thought. . . [This will show] the power of the scheme to put the various elements of our experience into a consistent relation to each other. . . . It must be one of the motives of a complete cosmology to construct a system of ideas which bring the aesthetic, moral and religious interests into relation with those concepts of the world which have their origin in natural science" (Preface).

Process and Reality is "an essay in speculative philosophy," which is defended "as a method productive of important knowledge," and as "the endeavour to frame a coherent, logical, necessary system of general ideas in terms of which every element of our experience can be interpreted." [1] Since the tested data of science are used as material and made into the body of this philosophy, a reconcilement through absorption is effected.

Whitehead's phrases readily follow the patterns of scientific concepts. He calls his system "the

[1] Ib. p. 4. "This ideal of speculative philosophy has its rational side and its empirical side. The rational side is expressed by the terms 'coherent' and 'logical.' The empirical side is expressed by the terms 'applicable' and 'adequate'" (p. 5).

philosophy of organism," a concept pervading all fields of science today. He analyzes, expands and seeks to apply it in all its bearings and consequences. Every organism arises from its antecedents and extends or "objectifies" itself throughout its world of interrelations. All actuality is linked and causal; isolation is excluded. "There are no brute, self-contained matters of fact, capable of being understood apart from interpretation as an element in a system. Whenever we attempt to express the matter of immediate experience, we find that its understanding leads us beyond itself, to its contemporaries, to its past, to its future, and to the universals in terms of which its definiteness is exhibited (p. 21)."

The "philosophy of organism" is a structure of logical thinking and harnessed imagination. Speculation seeks to conform to actualities and bring the criticism of its systematizing function to bear upon the data of the world. "Our datum is the actual world including ourselves; and this actual world spreads itself for observation in the guise of the topic of our immediate experience (p. 6)."

Though the philosophy of organism is "an atomic theory of actuality," [1] and though "actual

[1] Ib. p. 40. "The philosophy of organism is a cell-theory of actuality. Each ultimate unit of fact is a cell-complex, not analyzable into components with equivalent completeness of actuality," p. 334. Cf. pp. 335 and 365.

entities atomize the extensive continuum," which "is in itself merely the potentiality for division" (p. 104), nevertheless endeavor is made to do justice to the "world as an extensive spatial plenum" as well as "to the atomism of the modern quantum-theory," which finds "energy transferred in definite quanta" (p. 365). In discussing the pregnant phrase "all things flow," weight is given to the qualities of abidingness as well as to those of flux. Actual entities consist in a twofold process, that of their internal constitution and that of their transition or objectification in other entities. "Each actual entity is itself only describable as an organic process. It repeats in microcosm what the universe is in macrocosm. It is a process proceeding from phase to phase, each phase being the real basis from which its successor proceeds towards the completion of the thing in question."[1]

Process and Reality is a grandiose attempt to apply the procedure of philosophy to the data of science and the experience of mankind. These few extracts are given as a suggestion of its intent.

[1] Ib. p. 327. See the important Chapter X of Part II.

CHAPTER VII

HOW FACTS CONFIRM FACTS

The object of this chapter is to discover the way in which various facts and kinds of fact agree or disagree with each other and thus confirm or challenge their respective validity and value. In seeking thus to try out facts through their relations and results, one soon comes to consider how a given fact and its results harmonize with the man's nature and experience. The last two turn out to be very much the same. To perceive this, we have only to recall the processes of apprehending or imagining and constructing fact, and realize what we are doing when we think we are comparing different facts or sorts of fact.

What is a fact for man depends upon his apprehending faculties; with the inception of the experience, it enters into and makes part of his faculties or apprehending nature. Hence a supposed comparison of fact with fact involves, and virtually is, a consideration and comparison of human apprehensions (sensings, perceivings, imaginings, constructions and coördinations) of outer impacts and of further mental or psychobodily activity or experience, which is the same

thing. Facts are relative to our apprehending nature, and make part of it. There is no outer objective standard of certainty. Neither our sensations or perceptions or reasonings yield any such standard. The validity of so-called facts must be tested in the modes of their apprehension and through a consideration of the consequences, necessarily within ourselves, of accepting them as facts. The most convincing facts for us will be such as maintain themselves in general adjustment with our apprehending and reasoning natures. They are those which best stand the scrutiny of our mind and survive the trying out which comes as we live on and act on the assumption of their validity.[1]

[1] The difference between an "outer" or "physical" fact, as we sense or perceive its impact, and any other fact or construction of our body-mind or mind, lies in the different phases of human faculty taking part in the apprehension or adjustment or other experience. The outer world and all its impacts are for us facts of sensation and perception. The rational faculties coördinate the apprehended facts and make them acceptable to reason; whereupon they become facts of reason as well as of sensation or perception. The transformation into distinctly mental facts or constructions may be gradual.

Likewise the constructions of fancy and imagination, or the intuitions of art, religion or the primitive strain, depend for factual qualities upon the faculties employed and how far their constructions or apprehensions may prove acceptable to the rest of man's considering or reconsidering nature. Beyond the judgment reached by the individual's faculties, there is that of the *orbis terrarum*. Thus the consensus of the individual's and other men's faculties judge and criticize the validity or factualness of intuitions and constructions of the imagination. It still remains true that facts for us cannot but be the results of the action of our faculties, whether they be our "perceptions of the outer world," or the conclusions of our reason, or even the convincing intuitions of art or religion.

The element or dimension of time enters into ourselves and our successive phases and psycho-bodily activities. There is in us a past, a present and a future, and a *surrounding*. Our apprehension of fact and our consequent activity take place for us in time, and in space as well, when set in space concepts. Such action makes up our experience. In the meshes of its enfolding and enlarging web we compare one apprehended fact with another and trace their effect in the resulting conduct of our faculties.

Scanning our experience we call up in memory the facts which have been apprehended, adjusted and coördinated. They have become part of ourselves. To look at the facts of our experience in their results is really to look at the result upon our nature of that which it has apprehended and appropriated through processes of sensation, perception, and rational or imaginative construction. What is called up in memory appears as if making part of our past. Yet that into which we are looking is our present nature, that very self or phase which is busied with the inquiry. This present phase or self may join with its past through the action of a conscious memory. Yet our present is organically united with our past in another way which should be included within a full and proper concept of experience.

For there are two modes of experience, or two modes of our total nature. One depends largely

upon our conscious memory and seems to consist in recollection or recall. We remember such and such "facts." They have added such and such elements to our experience, or to our natures; they have taught us thus and thus. We may consciously and purposively apply the lesson of these recalled results to our present needs. Thus we consciously recall facts as they were accepted and became part of our experience, or of our experiencing selves. Now, as part of our memories, they make part of our present inquiring and recollecting selves or natures. We consciously recall as well their adjustments or results. By this means we consciously and rationally compare various facts and their coördinated bearings, and yet may recognize that all such are what they are through and in our activities. Such consciously recalled facts serve as a check and ballast upon our immediate and present acceptances or constructions of fact, and connect these with our past and present experiencing nature.

Of course, at any given moment we are not aware, that is, we are not thinking about, the vastly greater part of the experience bits of which we recall from time to time. Our recalls commonly follow the stimulus or suggestion of some occasion. But it would be rash to assume that the complex mass of our experience, when not recalled, is inert and without effect upon our nature. Probably it continues to affect our think-

ing and may supply suggestion or material. A goodly part of this experience has passed into such complete oblivion, has been so thoroughly forgotten, that we can no longer identify it and much less recall it clearly. Yet it may not have ceased to make part of our minds, and perhaps works on, affecting the character and direction of our thoughts. In this manner it shades into what I roughly set as another mode of experience, which works in us unconsciously. Both modes, however, are the product of our nature acting upon the impacts, or with reference to the impressions, of the outer world, and no sharp line should be drawn between them.

This other mode of experience, or of our effective nature, never comes to conscious recollection. It operates in and through the effect of our past psychical or physical activities upon our nature or faculties. Every act of our faculties leaves its effect. We grow through action. Our natures enlarge not merely through the increase of conscious knowledge or experience, but through the changes coming without our knowledge from action.

We are organic wholes, alive and organized in every atom of our nature. There is physiological coördination and compensating functioning throughout the body, and doubtless throughout the mind or body-mind — in fine throughout our entire nature. Its welfare or satisfaction or con-

tinuance may be the final end of every activity. And the growth of our faculties through action is as effectively part of our experience as that which may be consciously recalled. But neither the experience which is not in our consciousness nor that which may be consciously recalled is separable from our present nature, to wit our presently active capacities for the apprehension and construction of fact. So a continuum, a union indeed, is maintained between our past and our present, between what we were and what we are and are somewhat emergently becoming.

We cannot look into the constituents of experience sunk in our nature and beyond the reach of recollection. We must fall back upon those recognizable facts which rise up in our memories, or may with effort be recalled and rendered explicit in our consciousness. They constitute our knowledge of our past, or rather of ourselves. Also they in turn shade into two orders, not always clearly distinguishable. The one would seem to consist of physical or outer things and events as directly apprehended through our sensations, impressions or perceptions. The other line of facts may have sprung from the impacts or impressions of things physical, frequently are concerned with them, and may carry, consciously or unconsciously, their repercussions as formative elements of their own partly independent growth. But they are mental and take the forms of intellectual or

moral intuitions, conceptions, sentiments, convictions or principles. And at last, as if freed from the physical matrix, they cease to echo or reflect the physical, and live and energize as self-conscious intellectual or moral principles. Their chief concern may be with themselves or with other apparently mental experience or thoughts. But they are a most effective part of our nature, and may act as forms of intuition or apprehension, moulding or affecting other apprehensions or adjustments or constructions of fact.

The two orders of recognizable or consciously active experience work constantly upon each other. The apparently more direct apprehensions of fact affect the growth and form of our principles, while our principles are just as constantly affecting each fresh apprehension of fact. Their interwoven and counter action is complicated beyond measure. Who shall say, for example, how far our conceptions of right and wrong influence our apprehension and construction of facts, or on the other hand how far our apprehensions of facts in general, in a word, our lives, have influenced and formed our conceptions of right and wrong?

An inquiry into the values and verities of these two orders of conscious or still recallable experience soon resolves itself into a discussion of the character of our apprehensions of fact and of the faculties in and through which facts are sensed,

grasped, imagined or constructed. Such a discussion might prove a recapitulation of the contents of previous chapters. A better chance of some new insight lies in comparing our two modes of conscious experience with each other. That might show whether the facts which we recall as having been directly apprehended are more fruitful and reliable than our intellectual or moral convictions. Or the opposite might be discovered to be the case. Or finally we might conclude that these two orders of fact are in the same boat stoutly clinging to each other for support. We assuredly need both, and could not profit by experience or think or in any way conduct our lives with one of them alone. It is easier to set than to solve these problems. The discussion may work its way around to the principle that the surest facts, or most trustworthy apprehensions, are formed through the fullest employment and concurrence of our apprehending and reasoning nature.

These two orders of fact should be regarded teleologically in their purposes and pragmatically in their results. The purpose, hidden or again conscious, of our apprehensions or impressions of the outer world is to keep us alive and well, going concerns, — we who are so unescapably joined with our environment. From it we draw our means of living, and without it could not maintain ourselves as living organisms for a single instant.

From it comes also destruction in myriad forms. The urge to live is the core of the motive-energies of the living organism, for instance, the human individual. His apprehensions of the environment in and from which, and in spite of which, he lives must have as a general and final end his living on and satisfying his nature: their purpose is to keep him in a livable and viable relationship with his environment. Such also must be their actual result, if he is to live.

But, as we have abundantly seen, apprehensions of outer fact never end in their immediate selves.[1] They move on to further constructions, using as material the primary apprehension. Thus they try themselves out and adjust (or fail to adjust) themselves, or are coördinated with other functionings of the physical and mental nature of the apprehending and constructing and reasoning individual. Each new apprehension, or feeling of a new relation, brings its increment of novelty to the individual. But the mass of him was there before; and each new fact or feeling or coming-to-pass-for-him is drawn within the leading strings of his prior constructions and coördinations. It is brought under the moulding and remoulding action of experience — prior intuitions, prior constructions, prior coördinations, prior generalizations,

[1] Or, as Dr. Whitehead is showing in a volume of essays not yet published, perception analyzes according to the understanding. *Sense*-perception is not all of perception.

convictions, principles. Thus all apparently direct apprehensions of fact quickly become part of more mental and rational constructions or principles.

Look at the same subject backwards as it were, from the other end of the process — for it is all process. Our furthest principles of life, our sublime convictions, have their origins and still living roots in our experience — our experiencing nature. Where all is process one must not set the materials of growth in one category and the moving energies in another. Direct apprehensions are part of the energizing by which they become and are made over into the further generalized and rational principle. The latter links itself effectively with direct experience of the outer world, and, working backwards, may enter formatively any direct apprehension. Thus first apprehensions, and the ensuing moulding and adjusting and generalizing of the same, make an endless process, which is not necessarily instantaneous, but has a conscious or subconscious continuity, and may be retroactive. What is logically its terminus, for example the general conviction of right or wrong, may assert itself as self-subsistent and self-energizing; but myriad apprehensions of physical facts and all sorts of psychical or psycho-bodily relationships have made part of its development. And not alone the first apprehensions, but modes of intermediate process, partial generalizations or ration-

izations, have entered its formation. Convictions never quite cut loose from the pointings of experience; intuition may be a flash of synthesis. Whenever a conviction or an intuition proclaims itself self-born, it is apt to become what the general experience of men, using current modes of speech, dubs fantastic, unreal, unsound, insane.

To sum up. Our primary apprehensions of fact pass on into coördinations and further constructions, and must do so because they are processes of a coördinating and reasoning organism. Only thus can they be part of the percipient and at the same time rational nature of man. Conversely the generalized conviction could not have become itself without a continuity of antecedent process. It is a further functioning of human nature, yet holding its prior stages.

This account of the self-realization of fact — the living chain of impression and conviction — does not enable us to determine what values and verities may be found in the successive stages of the process. The process has been passed forwards and backwards, as it were; but our survey of it must be broadened. The particular apprehension, or construction, or conviction should be viewed in relation to the rest of the fact-making processes of the individual. How does the rest of his experience bear upon the process in question, and how does that bear upon the rest of his experience? This is the problem of the inter-

related and then specifically pointed action of the individual's general experience, that is, his fact-making nature, working to criticize, reject or confirm, in order to establish values and truths.

By itself (if there is any "by itself" or isolated action) one phase of mental or psycho-bodily activity seems no more reliable than another in the apprehension and further construction of fact. I do not add adjustment and coördination, because these stages of the process cannot take place through the sole action of any single faculty. An apprehension or apparent action of a single faculty is, as it were, up in the air and unattached until supported by some concurrent action of the rest of the individual's faculties. Thereupon ensues the adjustment and coördination which make this particular experience integrally part of the man's nature. The fact-making process then moves on toward a correlation with the mass of prior acceptances and convictions which have become a relatively stable part of the man and constitute his mentality. They make his best enlightenment and knowledge, his broadest criterion of values and verities. Such coördinated knowledge which controls, or rather constitutes, his mentality, is the sum of his experience and at the same time his fact-making nature. Inasmuch as it springs from his nature acting in reciprocal criticism, rejection, or confirmation, it is its own catholic adjustment, establishment and unification.

Beyond its all-embracing action one will scarcely find a further governing faculty, such as might be named reason or common sense. For the reciprocally adjusting, criticizing or confirmatory action of the man's whole experience or nature is his best reason and broadest common sense.

The inductive, deductive or discursive processes of ratiocination — reason in the narrow sense — can, like mathematics, work along glibly on empty or false premises. They may maintain a logical consistency even when lacking a content and presentation of actuality. But in that case they lose connection with controlling tangibilities of experience. Reason's reasonableness depends on its content and grasp of data. Its best wisdom consists in its comprehending action when it draws into its logical consistencies the full experience of the man, that is to say, the product of the apprehending and constructive functioning of human nature. One may choose to symbolize this final process in a conception of a reasoning faculty, — "that noble and most sovereign reason," as Ophelia calls it. Or perhaps one may find a conscious coming together of recalled experience, a thinking it all over, which brings about a judgment upon the issue representing the man's best rationality or reasonableness. Shall we say there is here a guiding faculty of "reason" that consciously recalls, brings together, and reviews? There may be, but I rather incline to find a combined action

of the mental or even psycho-bodily processes issuing in the best reasonableness of judgment the man is capable of. At all events, reason's sweetness and light cannot exceed the character and enlightenment of the reasoner.[1]

The view that a man's best convictions spring from a concurrence of all sides of his nature is supported by the prevalent fruitful conception of *organism*. An organism, or at all events a living organism, is that in which every functional part works in coördination with the whole and may adjust itself in compensatory mode to the excessive or deficient action of other parts. This seems the underlying principle of the physiology of organism — of its physical processes. But such do not function apart from the organism's psychic qualities. Rather we find in the living organism a general correspondence of both sides of its interworking psycho-bodily nature. Its best state is when everything functions in coördination with the rest. Looking especially to its mental phases, shall we not still find the principle of adjustment, coördination, coöperation? Will not this make for the best outcome in balanced judgment or conviction, and accordant conduct?

I can draw a historical illustration of the superiority of general concurrence over special arguments from the decay of the belief in witchcraft,

[1] The function of reason may be to bring out a higher order of generality (Whitehead).

which followed its baneful florescence in the sixteenth and seventeenth centuries. One could then argue as forcibly in favor of this belief as against it, and the condemnation of witches proceeded on the apparent and acceptable preponderance of testimony as to their guilt. Belief in witches was not argued down. It decayed and was cast on the dustheap as natural knowledge and the general enlightenment of more intelligent people reached the point where the belief became impossible and absurd.

Even first apprehensions of fact seem to have no such common likeness as to bring them under a single category. Their subsequent fortunes differ widely. Doubtless the whole man is in them from the beginning, in this sense at least that the sort of person he is enters into his apprehensions and constructions of fact as into all his acts. But some phases of him appear actively functioning while others are less in evidence. My chapter headings indicate general modes or groups of human fact: magic or the primitive strain, religion, art, the practical life, science and philosophy. An idea of the faculties employed in these various departments of human life and endeavor suggests the kinds of human values and verities realized. It has been seen in each and every department of interest or belief that men reach better values and surer fact as they bring to bear a fuller round of

their experience and apprehending nature. Let us again try out this idea.

The impact of a tree or mountain may be much the same upon the senses of a savage, a business man, or a scientist. But they will treat the impression very differently. Impelled by fear of a tree spirit or mountain demon, the savage addict of magic imagines and constructs counter facts of refuge or relief. These will differ from the facts constructed by the man of business calculating the tree's lumber contents or the scientist considering its life history.

Through an uninstructed and undisciplined imagination the savage creates a maze of facts belonging to the primitive strain. He uses his discursive reason to draw inferences and find analogies. But his reason is no better instructed than his imagination, and serves only to bring the creatures of his fears and fantasies to a pseudo-logical consistency. His reason is functioning in a region of unreality (as we think) and is no more reliable than the imagination which supplies the data.

But the primitive is capable of quite other conduct in lowlier fields, where his experience is more adequate and does not permit either his imagination or his reasoning faculty to run away with him. There is here a fuller concurrence of all sides of his apprehending and perceptive nature, acting with his stock of acquired skill and knowledge.

When he fashions a canoe from the tree we have been speaking of (very likely after having with the other side of his head done obeisance to the tree spirit) his perception, imagination, trained craftsmanship and reason, working together, produce something we recognize as a good job. Thus using his knowledge and experience, and keeping within its range, the savage reaches his best values and verities — unless we choose to find them in the creatures of his primitive imagination.

The early stages of religious fact are not clearly distinguished from the sorcery and magic of the primitive strain. But the religious apprehension of fact is more apt to move on so as to keep in agreement with the aptitudes and demands of a progressive society. Religion may still include the motives and impulses of the primitive strain. Much anxiety and fear enter its sense of helplessness and need — its yearning needs. There is the dark field of the unknown, where intuition flounders and imagination creates according to the intelligence and temper of individual or community. But further factors come into play, the perceptions of so-called natural fact and the general experience of life, with impressions of the fortunes and fates of men. Any human faculty or phase may react upon the content of religious intuition. The perceptive and rational faculties interpose their criticism and control. Then enters reason in the broader sense of the general intel-

ligence seeking to include the sum of the individual's experience and thus gain the support of his entire apprehending and comprehending nature for the confirmation of his judgments and the conduct of his life.

But the discursive reason, acting with a mistaken self-efficiency, may seek to make religion, or the religious apprehension of fact, into a logically formulated system. Thus religion is transformed to theology which, absorbed in logical and metaphysical constructions, loses the vitalizing content of intuition. Set within the rational phase of human faculty, theology will lack the content and concurrence of the other faculties. It does not carry the full value and verity that may lie in the more catholic apprehension of religious fact.

Another one of my chapters spoke of the apprehension and construction of fact through the impulse and effort of poets, painters and sculptors to express themselves in their respective arts. It almost goes without saying that the endeavor for the most complete and unimpeded self-expression would bring a full round of their faculties — their entire nature — into action. As observed, there would be the apprehension of some fact, — say through intuition or perception — and then the realization of the ways of life, perhaps of the working of fate or the will of God. With this would come the application of general principles; and, in the end, the constructive and synthetizing

intelligence would bring the whole to final form and pattern in accordance with the experience and knowledge, the temperament and genius of the poet or other artist. Probably no part of his nature was entirely quiescent, unparticipant and unconcerned in the finished product, the finally expressed or presented fact, which thus becomes the artist's self-expression and his conviction too. How could one say that any of the facts constituting the sum of the artist's experience had not influenced his work, which then should be, as far as he can make it, a just and lifelike presentation of some theme from nature or from human life.

Similar statements apply to the facts apprehended and constructed by the practical lives of men and women. Usually their grasp of fact and ensuing conduct are hazardous for themselves and others when issuing from unchecked impulse or from passion. Their surest conduct follows upon a recall of experience, a comparison and coördination of its constituency of fact. Here no part of their nature is inactive, and what appears as the synthetic action of their reason brings insight and conviction. It is upon this that conduct usually may be most safely based. Occasionally quick action on a generous impulse might have been best; but such impulse and consequent action may be expressions of the doer's entire character, which is the unified sum of his impulses and experience.

It seems to me that similar reasoning may be applied to the apprehension and construction of fact in the procedures of science and philosophy. The scientist, as it were basically, is supposed to use his perceptive faculties. Thereupon his powers of inductive reasoning are called upon to relate and extend the implications of the apprehended fact. His imagination (woe to the scientist without it!) is active opening affiliated fields to his synthetized perceptions or discoveries. The whole process is moved by intellectual curiosity and the desire, even the passion, to discover and demonstrate, and impress his work, his reputation, and himself upon the world.

So the scientist's whole nature may come into play. And if he be a wise and broad investigator, he will not confine his thought to the immediate matter, but will consider its incidental bearings and relationships. For the confirmation or criticism of his work he may consider it in the light of all his knowledge and experience. Thus he brings his intelligence and reason to bear upon its value and upon the validity or probability of his conclusions. It is thus that enlightening and beneficial scientific verities are reached — not permanent perhaps, yet contributive to the progress of knowledge which may entail the modification or discarding of the lower stages of its own ascent.

Finally we may apply the same thoughts to the values or the verities attained by philosophy

through its procedure of rational consideration. Reason is throughout the phase of human faculty employed; but it is reason filled out, informed and inspired by the whole of the philosopher's nature. Otherwise how could the speculative reason comprehend and consider all human experience, which is the matter of philosophy? For it seeks to be adequate, leave nothing out, and so to include the sum total of man and his world. But to this end philosophy must comprehend the whole of human nature not merely as its subject matter. Its procedure must take account of the many ways in which men and women apprehend and assimilate and adjust the myriad modes of fact which they make into their nature and experience. It too may employ all these ways, at least implicitly. There will be impulse and intuition in its processes, and of course perception; and I think they may be shot with emotion, at least with passionate and moving curiosity. I do not see how any of these is or can be left out, seeing that they are all part of apprehending and constructing human nature, part of the nature of man experiencing generally as well as acquiring that form of experience which is called knowledge.

That man's best assurance of fact and value lies in the fullest action of his faculties, is a principle that I have sought to apply in each of the several fields of human activity and endeavor. It is also

pertinent to the remaining problem: how, and to what extent, do the facts of one field confirm or criticize or impugn those of another? This brings us within the sweep of the conflict of the many modes of opinion and belief. To-day the primitive strain cuts a sorry figure with intelligent people. But our world resounds with the warring claims of religion, art, practical common sense, and science and philosophy.

Different faculties have different ways; and as some people care more for the facts of religion and others for those of science, so their respect for the psychic processes working in one field or the other will correspond. Yet in every field, along with the pronounced activity of certain faculties, there is some movement of the rest. In varying degrees of action or disturbed quiescence, all phases of human faculty have part in the apprehension and construction of fact in every field. Everywhere the whole man is concerned.

So no field of human thought and effort is entirely cut off from the influence or participant action of modes of feeling or intellectual energy which are more in evidence elsewhere and have other ways of conduct. Although, for example, emotion and intuition be the moving elements in the apprehension and construction of religious fact, faith may seek to rationalize itself by pointing to the inexplicability of the world and man without the hypothesis of divine power and pur-

pose. Such an argument may suggest the possible compatibility of religious modes of fact with those of philosophy or even science. Conversely, as already remarked, since emotional and intuitional fact are within the range of philosophy, its intimate appraisal of them might pursue processes of apprehension and construction neither rational nor intellectually perceptive. Nothing prevents philosophy from informing and instructing its rational and perceptive processes out of the whole store of human experience however gained.

It would follow that the facts apprehended and constructed in one of the fields of human interest may, according to occasions and conditions, be applied to the criticism or confirmation or rejection of those belonging to another field. There may be facts which have no such further bearing. Many minutiae of scientific investigation scarcely touch the facts of art or religion. But the larger processes and conclusions of science undoubtedly bear upon the facts of religion or philosophy; and the intuitional or emotional convictions of religion may carry criticism of philosophy's rational consideration or may comprehensively gainsay facts arrived at through the directly observational and operational procedure of science.

Fact for man consists of human functioning. To recognize different processes of apprehending and constructing fact is equivalent to recognizing

different kinds of fact. As some mode of human functioning is always the basis of fact, so it is of human value and verity. In so far as there are different ways of apprehending and constructing fact, and therefore different kinds of fact, there is a variety of values and there are perhaps different kinds of truth. Each kind of truth corresponds with the processes of which it is the result. If different faculties, through different ways, reach the same conviction — construct the same fact — they confirm each other, as they would have impugned each other had they reached different results; and the broader the range of faculty concurring in the result, the more firmly will it stand.

I wish the matter could be made clearer. But who has successfully defined or distinguished the psychic faculties or their manner of action? What psychology has made appreciable advance on the notions of intelligent people as to the nature or characteristic action of feeling, intuition, perception, reason, impulse, volition and will? Yet to our groping understanding these terms represent different qualities; and I hope I am not uttering mere words in saying that the faculties, as commonly distinguished, seem to act concurrently or upon the facts apprehended and constructed by each other. Our intuitions afford material on which the adjusting and discriminating reason readily may act, and often does act informingly. So feelings or emotions may stimu-

late and even clarify the action of the intellect. The emotion of love gives wings to imagination, deepens insight, enlightens while it blinds, and makes all things new. Even the brief madness of anger clears our vision as it passes. Conversely perception and reason correct the facts created by love, and restore to our judgment the proportion which anger for the moment has destroyed. So imagination expands reason, which in turn reacts upon imagination, or steadies its flight even when not restraining it.

Indeed it seems to me that no faculty ever acts without some disturbance or concurrent action of the rest. Scientific research carries impulse and desire. So does a train of philosophical or deductive reasoning. Without endeavor or effort, which is the conative and desirous element or stimulus, such sustained processes would not go on. There is volition in them. Conversely any intuitive or impulsive apprehension of fact will quickly bring perceptive and constructive and reasoning faculties into play.

I have argued that the faculties adjust and coördinate the apprehensions or convictions as to fact out of the common fund of experience or through the whole experiencing and constructive nature of the individual. Their common or contributory action puts things together. This coördination of the elements of experience — of the occasions

and events of the experiencing nature — seems to me to constitute the most comprehensive rationalization, or rendering probable and reasonable, of apprehension, intuition, thought, opinion or conviction. Any ensuing conduct will conform to such reasonableness according to the strength or energy of the individual's character, which again may be taken as the coördinated sum of impulse and desire.

The practical life with its varied exigencies affords good or bad examples of such rationalization, with conduct more or less conforming, as the case may be. But very likely the practical life involves too great heterogeneousness of experience and too many distractions to admit of complete rationalization either of conviction or conduct. Its rational judgments are troubled and deflected by self-interest and the impulse to promote its claims.

Religion springs from feeling and brave intuition, which thereupon (according to the individual and his setting) tends to adapt itself to perceptions and reasonings. It may absorb the data of the world of daily life, or even of science, and use the conclusions of philosophy. But its sphere remains that which cannot be experienced or known through scientific investigation, and may hardly be certified through that ultimate rational consideration which is philosophy. Its vagaries may be criticized from other fields, and thereupon it

may recognize and discard some foolishness. But its assurances cannot be certified from the other fields of human interest and endeavor.

On the other hand, self-interest and the desire to realize ideals and hopes, may be a legitimate moving energy for religious faith. For religion is a desire to be and attain, and have all else conform to, the heart's desire. It may find rational justification in the argument that these ideals, which are our very selves, are realized in the creative power which made us what we are. One will not withdraw desire from the apprehending intuitions and constructions of religion.

While the ways of art may, like religion, have a base in feeling and intuition, its sphere does not necessarily lie beyond the certifications of practical life or science or philosophy, or of religion. The subject of the artist's self-expression may be drawn from religion, and in that case participates in religious values and assurances, and is beyond the certifications from other fields. Art embraces also the sphere of mortal life, and its works in that domain may be condemned or commended and certified from practical life or natural science or philosophy. But in the main its impulses and procedure are not theirs. It reaches its values and verities in other ways. Though the inductive reason may contribute, the obvious phases of the process come through imagination and synthetic intuitions, and are colored by ideals and yearn-

ings of the artist's nature. His creations follow the ideal, the heart's desire. Hence his desire, his farthest yearning, even his self-interest in the ideal which is himself, do not impair the value or verity of his work.

But we note at once that neither the primitive strain, nor religion, nor art, nor the active life has knowledge as a final end, but only as a means, though perhaps the best of means. Otherwise with science and philosophy. Their final end is to know, to know that which appears to the scientist or the philosopher to be the truth of the matter. For them the desire to know is the only proper desire; self-interest should be banished and every wish that the thing should be so rather than otherwise, or disclose itself in accordance with the investigator's predilections.

Science and philosophy, these two closely related functions of the human desire to know, have always criticized and confirmed or condemned each other's methods and conclusions. They may consider the results or convictions obtaining in any other field of human interest — primitive strain, religion, art, or active life. But how the facts apprehended and constructed in these other fields bear upon those apprehended and constructed through the procedure of science or philosophy is another question. Leave out the primitive strain and pass to religious facts. These may widely diverge, both in process and con-

clusions, from the facts of science. Perhaps the question is whether direct perceptive and inductive reasoning reach surer values and verities for man than the intuitions and ancillary processes constituting religious fact. Again the answer lies in the relative capacity of these two orders or processes of fact to include and utilize the factual apprehensions and constructions of other faculties or phases of human nature.

The same query touches the value and verity of the facts of art or of the active life compared with those of science. Art's formative intuitions, as in great poetry or sculpture, may leap to larger judgments upon man and human conduct than science reaches by its slow-sure process. Science may or may not take note of them. Or the practical life, through its enormous volume of past and present experience, may doubt and wonder over scientific results. On the whole, however, science works, and through its useful results substantiates its validity in the judgment of the practical life.

A profounder question is whether the facts apprehended and constructed through the scientific procedure agree with those of that ultimate rational consideration which is philosophy, and, secondly, whether they can be made to conform to the facts which human nature endeavors to realize in response to its own insistent many-sided energies. The second part of this query carries on the first, inasmuch as the function of philosophy

is to consider, and in every sense of the word comprehend, the whole of human life.

At present the answer to this twofold query must be, no. In what respects the facts of science need the confirmation of those of philosophy was spoken of in my sixth chapter: that confirmation is as yet withheld. As to the second part of our query, the conclusions and admissions of thoughtful scientists disclose such limitations and uncertainties in the facts of science that its strangulated results make no approach to satisfying the fact-making nature of man. He realizes so many facts of impulse, intuition, desire — love, beauty and the fullness of life — that the mathematical, operational and symbolical results of the scientific procedure present him with but a curious view of the world. This is also noted by philosophy, which itself seeks to take account, "save the phenomena," of man's whole nature.

And now finally as to philosophy, or the apprehension and construction of fact through rational consideration and the speculations of human reason. Its field is man and the world he lives in. So it aims at universality. But, as a method, rational consideration is not catholic, for it does not employ or follow out all sides of human nature. It does not include the factual apprehensions and constructions of feeling, impulse, intuition; it is said to ignore facts of direct observation. Admitting the force of the impeachment, is it possible

for rational consideration so to enlarge itself as to include other and even irrational processes? This may be impossible for the ratiocinative faculty in the strict sense. But it can be done by the reason taken comprehensively as the self-adjusting and coördinating functioning of human faculty, discussed a few pages back. The fact-making processes of direct observation would then be included and those of feeling and intuition recognized. In this ideal state, philosophy's apprehensions and constructions of fact would seek to include and coördinate those of religion, art, the practical life and science, and present a catholic appreciation and judgment upon man and his world. Such might present an avenue of approach to the best human values and verities.

CHAPTER VIII

HISTORICAL ILLUSTRATIONS

Impulse and desire are the moving energies of human thinking, and set the lines of our apprehension and construction of fact. This is another way of putting my basic principle that all sides of our nature have some part, slight or important, in every thought and action. Although certain faculties, in a given instance, may take the leading rôle, the rest of our nature is not quite unmoved. Every apprehension of fact is a self-complementing process. It brings the faculties together in organic action, and also brings the fact together, — which may be viewed as the other side of the business. May it not even be said that the qualities or faculties of human nature thus brought into united and also unifying action, correspond with the qualities of objective fact? For a fact or object is no single isolated bit or thing, but a manifold of relationships which has reached some unity of action or effect. Every fact nests in the universe; there is no limit to its relationships and consequent complexity. May not the correspondence between apprehender and the apprehended fact be such as to justify us in finding the

qualities of the former in the latter? If so, our perceptions and constructions would correspond quite actually with things, and would bring a real correspondence between ourselves and the rest of the universe through our apprehensions of unsevered bits of it.

In the previous chapters, especially the last, I tried to bring my argument to a further conclusion that the surest apprehension and construction of fact, the best truth for any one of us, proceeds from the coördinate action of all sides of our natures. It is not merely that each part or faculty moves in the particular apprehension and construction, or is touched by it; their contributions, small or large, should work together so that the fact will accord with the rest of our experience, and in a way conducive to our balanced welfare and total grasp of life. The result will then represent a self-adjustment and harmony of experience and find confirmation in the consent of our entire selves. In bringing particular apprehensions of fact to an organic consistency, the perceptive and rationally generalizing functions of mind have the leading rôle.

Every living organism maintains itself through its activities. With the higher animals the result, if not the purpose, of their conduct is to enhance as well as maintain their lives. Apes seek to display their personalities, — an impulse becoming more clearly self-conscious in primitive men. The

conclusion lies near that, with the expansion of organic activity, the desire intensifies on the part of each individual to carry out its life. Man, most comprehensively active of animals, is the most self-conscious and the most passionately eager to raise and display himself.

Such catholic desire embraces all springs of conduct. And since man is a sexual propagator and a family creature, and inclined to be gregarious, it is not merely as an individual that he is impelled to carry out and fulfil his life. Much of this fulfilment can take place only through his relationships with others and his effect upon them. A primitive human impulse, also shown by apes, is to make the person more effective with ornaments and decorative markings, an impulse hardly conceivable as arising in isolated individuals.

The cult of self and self-importance inspires the endeavor to overcome obstacles and show oneself better than one's fellows. Throughout history it has shown itself in fighting. To kill others heightens man's self-esteem — a basic motive in savage fighting and in civilized war. It stiffens men's valor in defense, or when contending for women or when spurred by hate. Seething self-consciousness and vanity are the unfailing sources of man's long career as a fighting animal. Loyalty and patriotism are prized, and greed as well as need drive men on. But prowess and victory are glorified above all other themes.

In fine the comprehensive desire to live, and live most fully, impels thought and supplies the motives. There is no thinking, beyond day-dreaming, without it.[1] Thought, springing from desire and accompanying endeavor, consists in the apprehension and construction of facts. These weigh with the endeavorer according to their closeness to his desires. He magnifies the facts which affect him most poignantly, whatever they may happen to be, whether lying in the fields of affairs or politics or war, or belonging to religion, art, science or philosophy. Such facts make part of the directing forces of his life.

The history of mankind may be viewed as the story of the apprehension and construction of fact fundamentally along the lines of common human needs, which vary with the harsh or kindly qualities of the natural environment. There also enter the more particular desires and endeavors of each group. For, beyond the needs fulfilled by agriculture, industry and trade, a finer flower of desire, pale though it be, brings a certain tone. With progressive peoples the apprehension and construction of fact will for this reason follow more distinctive courses and may reach signal goals. The attainments of such peoples, or of their notable individuals, make the lights and colors which illumine and diversify history. I

[1] Even day-dreaming springs from the unexpended impetus of desire.

would draw from them illustrations of the effect of impulse and desire upon the apprehension and construction of fact.

The passion to live and live most fully moves men to hunt for food, raise herds, invent agriculture, make garments and build dwellings, get mates and propagate, and from age to age protect wife and children. They apprehend and construct facts in accordance with the uses and antagonisms of their environment. Means of warding off dangers are devised, shields as well as clubs and spears. But such gear cannot appease the terrors of wounds, disease and death, which ignorance and dim thinking serve to aggravate. For primitive man, his natural environment is an exhaustless store of mystery. The hostile ways of things and the need to meet and stay them excite his imagination. Vociferated words are a relief, and have an effect on other men, even on animals: why not upon the ways of things and the action of the elements? The more effective utterances become spells, which are as old as physical weapons. Not only uttered words, but images in clay or pigment may have power. Confusedly fearful, men shape these magic means of escape or defense or even of vanquishing. They are soon driven to make explanatory schemes of things — cosmogonies.

Nothing in the ancient world was free from magic or religion. Since every occurrence was

conceived to include a magical or religious element, this entered every apprehension and construction of fact. When a spear is thrown, say by an Homeric hero, a divine power either guides it to its fatal mark or turns it aside. In the issue of a battle, a god gives victory. The divine factor also enters acts of private or civil life. Through the greater part of history, the divine or supernatural element is included in the apprehension and construction of all notable facts by the actors and their contemporaries, and is put in the record handed on to later times. Magic or religion touches every event and affects all decisions as to a course to be pursued.

The line of historical illustrations is as unbroken as it is impressive. In Sumer and Akkad, that ancient font of divination and astrology, nothing in human life was beyond the action or control of Bel or Marduk or some minor god or demon. Later, in Assyria, it was Asshur that conquered the lands and peoples making the Assyrian Empire. Its king was Asshur's priest and regent, whose acts carried out Asshur's will. Failure to follow it was sin, which brought calamity. In Egypt likewise every act was made effective through the power of spell or prayer. Less cruel than Assyrians, the Egyptians made their gods more benign, and believed they might award happiness after death to the just and beneficent. In one spiritual crisis of Egyptian history, under the extraordinary

pharaoh Iknahton, the court circles advanced toward a benevolent monotheism. But Egypt lacked the faculty of critical and consistent thinking needed to make this idea effective and lasting.

Neither will one fail to recognize that the magical or religious element permeated the Greek apprehension and construction of fact. Was not Athens the city of Athene? The Greeks fashioned their gods after their own rascalities as well as virtues. Their great gift of reason might shape the manifold of their desires and ennoble their conceptions of the divine, proceeding philosophically. But for effective monotheism one must look to Israel.

In Israel, of course, every fact was taken as moved and directed by a god. There was no thought of the natural action of physical or mechanical forces, either among the ever lapsing, naturally idolatrous, people, or among Yahveh's prophets with their rising vision of the world and God. Tragic was the cleavage between the people and their seers, who were lifting the tribal faith to a righteous and dynamic monotheism. The prophets moved, lived, felt, and reasoned within the controlling power, as well as within the equally effective love and righteousness of their god. Nothing took place without his will. Whatever was apprehended as fact and taken into the web of the prophets' experience, was apprehended and accepted as issuing from the will and power

of Yahveh. Such was the nature of all fact, of rain, drought or disease, or the acts of hostile kings.

The prophets were tremendous reasoners. Through reason as well as feeling they fashioned their dramatic faith. With sudden power Amos turns the bearing of Yahveh's righteousness into a divine elliptic syllogism: "You only have I known of all the families of the earth, and *therefore* will I visit upon you all your iniquities." Much thunder is suppressed between the premises and that shattering *therefore!* So the book of Isaiah — all its parts and chapters — is shot through with reasonings set in metaphors which have stung the souls of men unto our day.

Jesus is religion incarnate. His life was entirely enfolded within his Father's love and will. All that he perceived, whatever he apprehended, every fact, whether within himself or in the world without, he accepted as issuing from the Father. God was the source and end of every event. All relationships with men flowed from the primal relationship with God: ye are all sons of one Father and *therefore* brethren. Feeling moves within this relationship, and within it reason functions, rendering it explicit and consistent.

In the following centuries, religion entered into the apprehension and construction of every fact by the Church Fathers and by thoughtful mediaeval men and women. Striking events were

brought about by divine action or magic agency, while life's common circumstances were taken as they came, and not much thought about, although making up the bulk of human experience. One may say much the same of the strident Lutheran and Calvanistic Reformation. Religion, largely in the reasonings of Paul, touched all events, and every crisis in human affairs was directed by the will of God. If it would seem otherwise with the very mundane conduct of the Italians at that period, it may be said that where religion weakened, its place was taken by magic and astrology, and facts still might be apprehended as supernaturally shaped.

Today astrology is given up and men are not apt to find specific divine interposition in the crises of their lives. But the overshadowing mystery of things still holds, and it were rash to say that nothing intrudes from it into our would-be sheer apprehensions of stubborn physical facts. Some of us, knowing our vast ignorance and stung by the ceaseless changes of human conviction, feel the greater need to refer our lives to an unfathomable imminence of divine love and reason.

I have not intended to depart from the sphere and effect of the common needs of men, in offering these examples of the pervasive influence of religion and the primitive strain upon human apprehensions and constructions of fact. Religious or magical factors parallel common needs and the

universal impulse on the part of men to carry out their lives. Of course during the long course of time, there were differences of equipment as well as environment among the various tribes or races, which affected their responses to human needs and their acceptances of fact. Such differences evince themselves more clearly as certain peoples come into our ken. So instead of endeavoring to trace inchoate and obscure variations in racial gifts, I will at once turn to those peoples who have strikingly shown special forms of genius and endeavor; and will draw from them some brief illustrations of the effect of such distinctive gifts and corresponding desires upon their apprehension and construction of fact. It seems to me better to take examples from the ancient world, as we call it; for its history is the story of the building up of human personality, each people adding its bit or increment to what should become the stature of the full-grown man, although that may never have been reached. Moreover, I think we see the more distant past in better proportion and perspective.

I take my first example from the ancient Chinese, and limit my view to the work and immediate influence of Confucius. That has exerted a clearly recognizable effect upon the apprehension and construction of fact by those myriads of proper minded Chinese who, in the last two thousand years, have accepted Confucianism.

The issue and result of the Master's work and example was a system of convictions and accordant ethics. Rules and standards of conduct were well correlated; values and working acceptances were interwoven in mutual support. This ethical and social scheme held efficient moulding forms for the apprehension and understanding of every situation. Not only conduct, but constructions of all social and other facts conformed to its tenets. The desirous factors of Confucian thinking, from which came the system's moving energies, made for themselves a frame of things and constructed fitting agencies. These were a cosmogonic scheme having creative and controlling functions; then a transmitted human nature akin to its source, but to be disciplined through education; and a history of the past that should prove the system's validity.

The primal power and source was Heaven or God, whose nature Confucius would not discuss, beyond insisting on its vast unfailing ordering of the world and the imperative need for men to keep Heaven's approval through right conduct, which is that agreeing with the nature of man. "What Heaven has conferred is called the nature. An accordance with this nature is called the Path of Duty." [1] It was germane to man's nature to fulfil the duties of the relationships ordained by

[1] *Kung Yung* I, I, — which is the twenty-eighth book of the *Li Ki* trans. by Legge, Vols. XXVII and XXVIII of Sacred Books of the East.

Heaven — ruler and people, son and father, wife and husband, elder brother and younger, friend and friend. "Fidelity to one's self and corresponding reciprocity are not far from the path. What you do not like when done to you, do not do to others." "Return justice for injustice, and good for good."

"All my knowledge is strung on one connecting thread," said the Master, "the connecting thread being fidelity to one's self and goodness towards one's neighbor."[1] "The higher type of man . . . will regulate the whole by the inner rule of conduct, and will thus avoid overstepping the limit"; he "seeks all that he wants in himself."[2] Clearly Confucius's teaching centered in the due cultivation of man's nature and the righteous acts naturally flowing from it.

Human nature and the path are also presented as the state of Equilibrium and Harmony: "While there are no stirrings of pleasure, anger, sorrow or joy, the mind may be said to be in a state of Equilibrium. When those feelings have been stirred, and they act in their due degree, there ensues what may be called the state of Harmony. This Equilibrium is the great root, and this Harmony is the universal path."

"Let the states of Equilibrium and Harmony

[1] Giles' translation in "*The Sayings of Confucius*," p. 67. Cf. ib. p. 118.

[2] Ib. p. 59, 68.

exist in perfection, and a happy order will prevail throughout heaven and earth, and all things will flourish."

The Chinese temperament had long before embodied the rules of conduct in a network of ceremonial usages,[1] upon which this most typical Chinaman Confucius set the stamp of his approval. They were the visible frame of the state of Equilibrium and Harmony; through them the ancient kings sought to present the ways of Heaven; they hold the people together and are the shaping forms of intercourse among the living and between the living and the dead. Yet by maintaining that such rites and ceremonies were a reflection of man's true nature, Confucianism stood as an ideal of character expressing itself in conduct. A good man will have the feeling of reverence even when inactive, and the feeling of truthfulness even when silent.

The Confucian scheme was conservative. All men should possess the virtue of filial piety and exhibit it unfailingly in their conduct. Since the family is the type of the social structure, every virtue has its roots in filial piety, which impresses reverence on the people. For the completion or final perfecting of that character which shows itself in right conduct, the Master looked to poetry and music. He urged his disciples to study the *Shih*

[1] Possibly usages may have come first, and so have been the source of a general rule.

King, or book of ancient odes composed at different epochs and expressing sentiments suiting the conditions of the time: joyful when the people are prospering through right conduct, resentful at disorder, mournful in catastrophe. Their office was to rouse appropriate feeling. "It is by the Odes that the mind is aroused. . . . It is from music that the finish is received." Says the "Great Preface" to the *Shih King:* "Poetry is the product of earnest thought. In the mind, thought becomes earnest; put in words, it becomes poetry. The feelings move inwardly, and are embodied in words. When they are not enough, come sighs and exclamations, and then recourse is had to the prolonged utterance of song, the hands begin to wave and the feet to dance."

The ancient kings promoted poetry and music, as well as ceremonies, so as to teach the people to direct their desires aright. This statement is a bit of the Confucian treatment of history. The old stories making up the classic of the *Shu King*[1] were put together and edited by Confucius and his school in such manner as to give historic sanction and prove the validity of the Confucian system. The acceptances, approvals, and fervent wishes of Master and school shaped their apprehension and construction of ancestral historic fact. For example: Yao, the first emperor in the *Shu*

[1] Translated by Legge, *Sacred Books of the East*, Vol. III. The same volume contains the *Shih King*.

King, was reverential, accomplished, thoughtful and courteous. He improved agriculture, regulated the calendar, "united and harmonized the myriad states; and so the black-haired people[1] were transformed. The result was concord." There was one Shun, whose faultless piety had transformed the evil ways of his family, and when the Emperor tried him in matrimony with his own two daughters, he still displayed a completely virtuous character. Yao compelled him to accept supreme rule. As Emperor, Shun was irreproachable, ordaining appropriate sacrifices, regulating ceremonies, weights and measures, and punishments. "Let me be reverent" said this second organizer of the empire. His chief minister was the great Yu, who, when he had overcome the inundations, drained the lands, sowed them with grain and taught the people, said reverently, giving account of his stewardship: "If the sovereign can realize the difficulty of his sovereignty, and the minister the difficulty of his ministry, the government will be well ordered, and the black-haired people will sedulously seek to be virtuous." Shun knows him as his true successor and compels his acceptance: "The determinate appointment of heaven rests on your person."

These key-notes of the ancient history are supplemented by the reverse principle: "The favor of Heaven is not easily preserved. Men lose its

[1] An old name for the Chinese.

favoring appointment because they cannot carry out the reverence and virtue of their forefathers." Heaven's high commission to a dynasty is during good behavior. When it becomes evil, it ceases to be legitimate. The unhappily recurrent fact throughout the later portions of the Shu King is that ruin overtakes the evil dynasty, and the founder of a new dynasty, as commissioned by Heaven, overthrows it. Let his descendants reverence his ways.

Many sides of human nature took part in the making of the Confucian scheme — impulse and desire, reason, the constructive faculties of the mind. The same may be said of the work of the Christian Church Fathers and other early apologists seeking to substantiate the divine truth of Christianity in a world of partly similar and partly opposed pagan acceptances and attitudes. The task of the Christian apologists taxed not merely their intellect, but drew upon all sides of their natures. Impulse and dominant desire and rational faculty united in the endeavor to gain for themselves, and press upon all, the supreme boon of Salvation, and demonstrate its immediate and eternal validity and worth. Naturally their endeavor was pervaded by the impulse to carry out their lives in the face of obstacles and prove their human and controversial superiority over their opponents. My object here is to point out how their dominant desires and apologetic pur-

pose fashioned their understanding of history — the apprehension and construction of historic fact. Their purpose paralleled that of the Confucian treatment, but the *modus operandi* was of quite another kind.

Pagans nourished in the Hellenic culture and philosophy of the Roman Empire might attack the unmalleable crudities of the Jewish Old Testament, accepted by the Christians as the divinely revealed antecedent and foundation of Christ's gospel. Another assault upon Christianity sprang from the catastrophes falling on the Empire at the opening of the fifth century, when Alaric sacked Rome. Different forms of defense were demanded, both of which, however, were to consist largely in the polemic treatment of history, sacred and profane.

The thesis of the more concrete pagan attack was that the Roman Empire had come to its greatness through the mighty protection of the pagan gods, and now, through the acceptance of Christianity, it had fallen in ruin. To meet this argument Augustine composed his prodigious *Civitas Dei*, a work of mighty plan, and an exhaustless store of Christian argument. It set forth that under God's providence two opposite desires in mankind built up two commonwealths: the love of self built up the earthly commonwealth, whose fortunes may be traced in profane history, culminating in imperial Rome; the love

of God built up the commonwealth of God, disclosed in the Old Testament and culminating in Christ and the universal Church. Even Rome had not grown and stood through the power of her gods, but through her energies as permitted and directed by the providence of the true God. Augustine showed the evil foolishness of pagan worship and the falsity of pagan philosophy. In fine the entire course of history, and of all past thought and culture were brought together into an argument *adversum paganos*.

To supplement his own work, the great bishop requested his disciple Orosius to bring together and expand the history of the world in a special work *adversum paganos*. He bade me, says the disciple, gather "from histories and annals whatever mighty ills and miseries and terrors there have been from wars and pestilence, from famine, earthquake and floods, from volcanic eruptions, from lightning or from hail, and also from monstrous crimes in the past centuries; and that I should arrange and set forth the matter briefly in a book."

Four great kingdoms arose in succession under the ineffable ordination of God, the Babylonian, the Macedonian, the African, and finally the Roman. The intermediate two were the curators of Empire destined to pass from Babylon to Rome. Everything was disposed in the mysteries and fathomless judgment of God. Marvellous chrono-

logical coincidences are adduced to illuminate and emphasize the working of Providence, and demonstrate its unfailing efficiency. The final proof was the bringing of all nations, in the fullness of time, into universal peace, under the rule of Augustus, in order that, when Christ was born, the Gospel might spread among men. As against the defamers of Christianity, Orosius presented the long tale of slaughter and calamity to show how wretched the fortunes of the world had always been, more wretched indeed than in the fifth century when Orosius wrote.

No further illustration need be given of the effect of this kind of Christian apologetics upon the apprehension and construction of historic fact.[1] But I have still to refer to the defense against the pagan attack upon dubious occurrences in the Old Testament and instances of apparently evil conduct on the part of its worthies. The Church Fathers did not invent allegorical interpretation. Centuries before the Christian Era excellent Greeks had resorted to it to make the Homeric gods respectable — a miserable subterfuge, said Plato. Later, the Hellenizing Jew,

[1] See my *Classical Heritage of the Middle Ages*, Chap. VIII, and Chap. IV of *The Mediaeval Mind*. Augustine and other Christian writers were accustomed to a rendering of history that would conduce to worthy ends. Cicero speaks of history as *opus oratorium*, *i. e.*, as properly possessing rhetorical qualities and helpful to public morals. Sallust, Livy and Tacitus wrote history with some such purpose, presenting their facts so as to make for the glory of their country or carry salutary lessons to its citizens.

Philo of Alexandria, a contemporary of Jesus, used it to transform the Pentateuch into an acceptable system of philosophy. A number of his interpretations were retained by the Christian Fathers.

The Old Testament abounds in images, and very palpable allegories were composed by the later prophets Ezekiel and Daniel. In the first centuries of the Christian Era the allegorizing habit infected writers of every sort. Allegory would have been read quite naturally into the Old Testament. But with definite purpose the Church Fathers turned allegory again to its early apologetic function in order to maintain the inspired truth of Scripture and the moral conduct of a man like David when he seemed to sin. Beyond this, with acumen and constructive genius, they used it as against both Jew and pagan to prove that the life and death and resurrection of Christ were prophetically set forth and spiritually prefigured in the entire contents of the sacred writings. No need to add that their interest in the obvious sense of Old Testament statements correspondingly dwindled. Such so-called historical meaning fell into disrepute as "the letter that killeth," because utterly lacking in saving significance.[1]

Confucian ethics and the apologetic exigencies of the early Christian situation illustrate the effect of strong desire and definite purpose upon

[1] See what is said more generally of Christian allegory and historical interpretation, *ante* Chap. III.

the apprehension and construction of fact. The Chinese showed pronounced racial proclivities. Christians were not a race; but their ideals, purposes and theological methods drew a certain character from their faith struggling to hold itself intact amid the political and spiritual conditions of the Empire. From these instances of yearnings and endeavors shaped by master-minds — Confucius and Jesus — and affected by rather special situations, I turn to less specifically directed, but none the less efficient, action of racial genius upon the apprehension and construction of fact. Excellent examples are afforded by those gifted opposites, the Hindus and the Greeks. The desires of noteworthy individuals among them may have addressed themselves rather selectively to rational gratifications; but all sides of human nature contributed to their view of life and their apprehension of the world.

When the rather active and heroic Vedic age had passed, the general obvious facts of change and death began to sting the thoughtful Indian mood. Attracted by the universal, the Indian mind balked at the concrete, which seemed but the source of poignant contrasts between the painful accidents of change and a yearned for state beyond their reach. The appetite for abstract reasoning clogged any ardor for the passing show, and checked the intellectual quickening of perception. Seeking emancipation from

these fleeting things which led men on to death, Indian meditation set towards moods of aversion, and constructed a metaphysic for the attainment of the Absolute.

The Upanishads were composed in centuries well preceding the Christian Era. Throughout their mazes of dialectic, they are moved by the sorrows springing from impermanence and by contempt for whatever fails to share in the steadfastness of thought. They present a unison of mood and argument.

Belief in the transmigration of souls pervades their thinking. Souls must be freed from the torment of rebirth and death. The Upanishads struggle onward through a labyrinth of symbolism and metaphysics, looking to reach a demonstration and establishment of an Absolute All-One. They will then identify the Soul, the Self, with It — the Atman with Brahman. For the Atman is this Absolute Self within each one of us, if we will but know it; and Brahmă, a word which in the Vedas had meant prayer, becomes transformed to that prayer which has brought its own fulfilment and reached its uttermost desire as the unchanging and imperishable Absolute. The Self is That; That is the Self. Beyond it there is only *Maya*, the delusion of Name and Form. Withdrawing from the false lures of this delusion, the Soul wins release through the knowledge that the Atman-Brahman is the sole reality. This

knowledge brings the cessation of desire for all evil figments, — chief among them the hankering for pleasure, which is the foulest of all chains that bind the soul to the phantasmagoria of the passing show. "He who is without desire, desire having been laid to rest, is himself his own desire — he is Brahman."

Under this temperamental impulse of escape with its ideal of attainment, the Indian mind apprehended and constructed its vital facts, to wit, the principle and the means of release from what it detested, and then a painless final refuge. The Upanishads accomplish this feat. And the same Indian mind, still clinging to the principle of non-desire, but using another metaphysic and psychology, constructed an equally sure refuge — or attainment — Nirvana.

Emotion and the force of yearning drove on to the Brahman attainment of the Absolute. But the personality of Gotama drew men to him and to his system with an added devotion. From the heart as well as through the reason rose the cry of those seeking salvation: "I take refuge in the Buddha, in his teaching, and in the brotherhood." Gotama attained salvation and became the Buddha through meditation. From pity he decided to impart his system to those capable of receiving it. In it a transforming use was made of the current dialectic of the time, and the metaphysical conclusion was reversed. But the

mood and deep desire continued as in the Upanishads. Said the young Brahman to Death: "Keep thou thy horses, keep dance and song for thyself. Shall we be happy with these things, seeing thee?" Says the Buddha: "How is there laughter, how is there joy, when the world is always burning? . . . Let no man love anything; loss of the beloved is evil. Those who love nothing and hate nothing have no fetters. From love comes grief, from love comes fear; he who is free from love knows neither grief nor fear." [1]

Like the Brahmans, Gotama recognized that the ground of human misery is ignorance: Knowledge offers salvation. Through meditation he apprehended the universal principle of causation and dependency of all occurrences affecting or constituting states of human consciousness. Thereupon, realizing the pain of everything pertaining to the individual life, he was loosed from the craving which is sorrow and entails rebirth. Thus he won the peace of perfect enlightenment and became the Buddha.

He presented this principle in the formula of the Eightfold Path, through statements which are hard to reset in categories of western thought, though they offer analogies with much modern psychology. "In dependence upon ignorance arise the figments — the Sankhārā; in dependence upon them arises consciousness; in dependence on that

[1] *Katha Upanishad*, I, I, 26; *Dhammapada* 146 and 211.

arise name and form, and from that spring the senses and perception. Contact comes and then sensation, and thereupon thirst, and from thirst or desire a clinging to individual life. From that clinging comes birth and rebirth, and there follow old age and death, grief, lamentation, suffering and despair. Such is the origin of the whole realm of pain." [1]

Release could come only with the falling away of the cause: ignorance passes with the destruction of desire; the figments cease and consciousness ceases; the fields of sense dissolve; thirst is quenched and the grasping after existence; becoming ends, there will be no rebirth, old age and death and the whole realm of sorrow are destroyed.

Whoever would have some glimmering understanding of this scheme of causation and dependence, must not think of life as beginning at birth or ending with death. In Brahmanism it is the soul that passes on from one existence to another. There is no such entity in Buddhism, but only a carrying on of Karma, the power of the act, which in some way, inconceivable to us, impregnates a new consciousness and brings a renewal of name and form. The ignorance which is the first link of the chain, means ignorance of the Buddha's teaching as set forth in this Eightfold Path, and the Four Truths of the traditional sermon uttered in the deer-park at Benares: He who would give

[1] I have not attempted a full rendering.

p the world should avoid two extremes, the life f lust and the life of painful and fruitless mortifi- ation. By avoiding these two extremes, the 'athāgata (the Buddha) has gained knowledge f the Middle Path, which leads to insight and 'isdom, to peace and to Nirvana. Birth is uffering, age is suffering, death is suffering, the resence of the unloved, the absence of the loved, ; suffering; not to obtain our desire is suffering, 1 fine, the fivefold clinging to existence is suffering. 'he noble truth of the origin of suffering is this: : is thirst which leads from rebirth to rebirth, hirst for pleasure, for becoming, for the transitory. ınd the holy truth of the cessation of suffering is his: the cessation of thirst through the complete estruction of desire, the disciple also following 'the holy eightfold path of right faith, right esolve, right speech, right act, right life, right ffort, right thought, right meditation."

The disciples must tread this path in reliance ın themselves, with no help from The Blessed)ne beyond the inspiration of his example. He ıad passed to Nirvana, having adjured them)efore his death: "Be ye lamps unto yourselves. 3e ye a refuge unto yourselves. Hold fast to the :ruth as to a lamp. Look not for a refuge to ınyone beside yourselves. Let the monk, while n the body, overcome the grief which arises from)odily craving; so also, as he thinks or reasons or :eels, let him overcome the grief which arises from

the craving due to ideas, or to reasoning, or to feeling. Behold now I exhort you, saying, Decay is inherent in all things. Work out your own salvation with diligence. These were the last words of the Perfected One." [1]

There was no god in the arduous system delivered by the Buddha, and only casual reference to the futile gods of popular belief. Yet currents of magic and supernaturalism ran through the Upanishads, doubtless affecting the minds even of the sages; and before long, as a reaction from a first strenuousness, Buddhist thought and practices opened the gates to myriad gods and demons. So magic and religion played their part in the Brahman's or the Buddhist's apprehension and construction of fact. But one may believe that detestation of the round of change and death, and a yearning for an absolute refuge, set the attitude of all meditative Hindus to the world about them, affected their experience, and entered their apprehensions and constructions of whatever presented itself as fact.

The Greek temperament was the opposite of the Indian. Endowed with an even more comprehensive gift of reason, the Greek knew and desired the fullness of changing mortal life; he perceived and felt its myriad facets. This large compass of human desire, implicitly ordered by

[1] The last is, somewhat shortened, from the *Book of the Great Decease*, Vol. XI of Sacred Books of the East.

the finer discriminations of reason and intellectual perception, affected all Greek apprehensions and constructions of fact.

I shall make no reference to the many rascally and clever qualities of the Greeks or to their grasp of fact in social life and religion, in government and war; but shall keep to ideal conceptions formed by the comprehending and proportioning action of their minds upon that manifold of impulse and perception and love of life which made them so fully human. This multiplicity of impulse and desire made up the implicit contents of these ideals, which were formed through the action of the Greek mind seeking proportion and unity. I would regard these ideals first as a *resulting* apprehension and construction of fact, and then consider them in their effect upon the thoughts and attitudes of Greeks towards themselves and other men and human life.

Greek ideal conceptions were phases or aspects of each other. From among them I select the thought of Beauty which, springing from many sources, attained an underlying consistent meaning. There was fleshly lust as well as intellectual passion in its composition, with all sorts of perceptions, impulses and desires. Broad was its range of kinship; it touched at many points the equally comprehensive idea of goodness.

The Homeric thought of beauty had various applications. Its primary meaning, fair to see or

beautiful to hear, carried an abhorrence of what was offensive to the eye, discordant to the ear, or shocking to the mind. Beauty included χάρις, the pleasing loveliness of natural grace, and drew to itself the sense of αἰδώς, the heroic shame at all things cowardly, with reverence for what should be revered. It likewise meant becomingness of conduct, the seemly decency of word and act: and might embrace the fitness and proprieties of a situation.

Beauty's symphonic inclusiveness enlarges with the years. It throbs with the passion of Sappho; it breathes the lofty thought of Pindar, and broadens its ethical consideration from tragedy's exemplifications of human life. Σωφροσύνη, — temperance, measure, self-control — became one of its elements, a fitting complement to the high sense of self, which urges men to noble deeds and brings fair fame. Long before Pindar's Odes of Victory, the Epics had set forth the beauty and greatness of man, despite mortality.

If the sources of the ideal of beauty were manifold, its effect was profound. It was the constructive principle of the *Iliad* and *Odyssey*, forming their plan, bringing them majesty of movement and that fitness of incident and sureness of consequence, through which they represent life truly. It also exerted a plastic influence upon the comprehensive judgment of life which the Greeks brought to some sort of unity under the idea of Fate.

Several words, of different significance as well as derivation, are used in the Epics to symbolize the course and final event or destiny of an heroic or otherwise notable life. The proportioning and unifying qualities of mind, which had fashioned the Homeric ideal of beauty, shaped the Homeric thought of fate and made it beautiful and true. The element of probability entered this composite idea, which had arisen from observation of the ways of life and was fashioned by minds that loved fitness. The Epics hold much that is cruel and heart-rending. Yet everything taking place harmonizes with the situation and accords with the nature of the doer or sufferer.[1]

The fates of Achilles and Odysseus are perfect illustrations. Thetis's son spoke truly of the opposite fates foretold by his mother, one of which should bring him to his death: "If abiding here I fight about the city of the Trojans, my return is cut off, though my fame shall be imperishable; but if I fare homewards to my dear native land, my great fame perishes, but my life shall be long." Impelled by his nature, Achilles could not but choose brief life and undying fame — the likely fate of this mighty overweening youth fighting in that fame-giving war. Just as appropriately fated is the destiny of the valiant but sagacious Odysseus. It was apt and likely that he should survive the war, and see his home and prudent wife again.

[1] For details see my *Ancient Ideals*, I, pp. 165 sqq.

For another example, what could be more fitting than that the overbearing and far from guiltless Agamemnon should be slain on his return, and that his murderous wife and her paramour should expiate their crime?

The fates of Clytemnestra and Aegystheus, as well as that of Agamemnon, were retributive. It is this quality of fated retribution that Aeschylus develops and dramatizes in his tremendous trilogy. Wickedness and its punishment had worked as an infection in the blood of Atreus's house, from the time of that defilement of a brother's bed and the monstrous vengeance, of his own children slain and fed to the defiler. Cries Cassandra as Agamemnon's murder is about to fall: "I scent the track of crimes done long ago. Emboldened, having drunk men's blood, that revelling band abides of sister Erinyes, not to be cast out." Ancient outrage breeds crime on crime, until, when Greece was assembled for the fatal war, Agamemnon slew innocent Ephigenia and let loose infinite woe in order to bring back guilty Helen.

The thought of fate advanced along the lines of development of Greek ethics. It seized upon the motives of conduct, wicked or right-minded; it joined with reverence in abhorring ὕβρις, the crime of overweening insolence. It added its sanction to temperance, measure and justice. Moving with consequential fitness, it always brings down retribution, and sometimes comes to an end

in expiation. It was clearly fashioned by the same range of impulses, desires, perceptions and reasonings which formed the ideal of beauty: a child of that ideal, or another phase of it.

Nothing was more characteristic of Greek thinking than the recognition of the inter-relatedness of these ideal conceptions. Linked in close kinship, they compassed the whole of life; a Greek might judge himself, his conduct and his fate within the guidance of their canons. Together they inspired and gave form to sculpture, painting and poetry — all Greek art. They were moving principles in the apprehension and construction of artistic fact. In later centuries, when heroic action was giving way to intellectual culture, thoughtful Greeks meditated on the ideal of beauty, and spoke of it more consciously. Thus the orator Isocrates, in his *Helen:* "She was gifted above all others in beauty, the first of all things in majesty and honor and divineness. Nothing devoid of beauty is prized; the admiration of virtue itself comes to this, that, of all manifestations of life, virtue is the most beautiful. The supremacy of beauty over all things can be seen from our dispositions toward it and them. Other things we seek as we have need of them. But beautiful things inspire us with love. To them alone, as to the gods, we never tire of doing homage."[1]

[1] Translation condensed from Jebb's *Attic Orators.*

Greek thoughts of beauty seem to come together in the soul of Plato, where beauty is both passionate desire and a goal for analytic and synthetic thought. The one impassions the *Phaedrus*, the other lifts the argument of the *Symposium*, stage by stage. The *Phaedrus* speaks of madness inspired by the Muses, which, seizing the soul drives it to adorn great deeds and marshall them in verse. The soul has fallen to earth, and when it has flashes of the beauty whence it came, it would fain fly upwards, careless of things here. This yearning for absolute beauty is the best of all frenzies; and only he who is possessed by it can be called a lover.

The *Symposium* — as who does not know? — follows love's longing to its utmost reaches, ordering, winnowing, illuminating, and universalizing it, till it emerges as the principle which draws all human yearning toward that Supreme Good which is Beauty Absolute. Love is love of the beautiful and good, with desire to possess it. Love is love of generation and birth in beauty. The soul mounts through the lower beauties to the knowledge and vision of Beauty Absolute. But that is not for all. For it is difficult: χαλεπά τε καλά, quotes Plato, even as Spinoza was afterwards to say, "All noble things are as difficult as they are rare."

In fine, the Greek ideal of beauty had its sources in the manifold round of Greek impulse and desire;

it was formed by the Greek mind following an innate desire for unity, fitness and proportion. In turn it acted upon the Greek apprehension and construction of fact in the fields of conduct and the domains of poetry and plastic art. It acted as well upon the ultimate Greek understanding and appraisal of mortal life and upon the reasonings of philosophy.